



## *Service Manual*

**ExecJet™ II and ExecJet IIc**  
**4076-0XX**

- ***Table of Contents***
- ***Start Diagnostics***
- ***Safety and Notices***
- ***Trademarks***
- ***Index***
- ***Manuals Menu***



*Lexmark and Lexmark with diamond design are trademarks of Lexmark International, Inc., registered in the United States and/or other countries.*

**Second Edition (May, 1996)**

The following paragraph does not apply to the United Kingdom or any country where such provisions are inconsistent with local law: LEXMARK INTERNATIONAL, INC. PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This publication could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in later editions of the publication. Improvements or changes in the products or the programs described in this publication may be made at any time. Publications are not stocked at the address given below; requests for publications should be made to your point of purchase.

Comments may be addressed to Lexmark International, Inc., Department D22A/035-3, 740 New Circle Road, Lexington, Kentucky 40550, U.S.A. Lexmark may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

ExecJet and Lexmark are trademarks of Lexmark International, Inc., registered in the United States and/or other countries.

AppleTalk and LocalTalk are trademarks of Apple Computer, Inc. registered in the United States and other countries.

Other trademarks are the property of their respective owners.

**© Copyright Lexmark International, Inc. 1994, 1996.**  
**All Rights Reserved.**

**UNITED STATES GOVERNMENT RESTRICTED RIGHTS**

This software and documentation are provided with RESTRICTED RIGHTS. Use, duplication or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 and in applicable FAR provisions: Lexmark International, Inc., Lexington, KY 40550.

# Contents

Notices and Safety Information . . . . . vi

    Electronic Emission Notices . . . . . vi

    Safety Information. . . . . viii

General Information . . . . . 1

    Power Consumption . . . . . 1

    Options. . . . . 2

    Maintenance Approach . . . . . 2

    Abbreviations . . . . . 3

    Unique Tools Required For Service . . . . . 3

Diagnostic Information . . . . . 4

    Start . . . . . 4

        Error Indicator Table. . . . . 5

        Power-on-self-test (Post) Sequence . . . . . 7

        POST Symptom Table. . . . . 8

        Symptom Tables . . . . . 9

        Carrier Transport Problems . . . . . 9

Service Checks. . . . . 11

    Envelope Feed Service Check. . . . . 11

    First Print Line Service Check . . . . . 11

    Maintenance Station Service Check . . . . . 12

    Operator Panel Service Check. . . . . 13

    Paper Feed Service Check . . . . . 14

    Paper Path Service Check . . . . . 17

    Parallel Port Service Check . . . . . 18

    Power Service Check. . . . . 19

    Print Quality Service Check . . . . . 20

    Simm Service Check . . . . . 22

    Transport Service Check . . . . . 22

Diagnostic Aids . . . . . 24

    Demo Test . . . . . 24

    Print Fonts Test . . . . . 24

    Purge Test . . . . . 25

    Print Nvram . . . . . 25

    Test Page. . . . . 26

    Paper Sensor Test . . . . . 26

    Encoder Sensor Test . . . . . 27

    Hex Print. . . . . 27

    Parallel Port Test . . . . . 28

    Initialize Nvram. . . . . 28

    Serial Adapter Test. . . . . 29

Repair Information . . . . .	30
Handling Esd-sensitive Parts. . . . .	30
Adjustments . . . . .	31
Bi-directional Alignment Adjustment . . . . .	31
Removal Procedures . . . . .	32
Releasing Plastic Latches . . . . .	32
Auto Sheet Feed (ASF) Assembly Removal . . . . .	33
ASF Envelope Buckler And Pick Roller Hub Removal . . . . .	33
ASF Right And Left Edge Guide Assemblies Removal . . . . .	34
ASF Paper Load Lever Removal. . . . .	34
Carrier Removal . . . . .	34
Carrier Transport Belt Removal. . . . .	35
Carrier Guide Removal . . . . .	35
Carrier Transport Motor Removal . . . . .	35
Carrier Transport Motor Frame Removal . . . . .	36
Encoder Strip Removal . . . . .	36
End-of-forms Flag Removal. . . . .	37
Exit Roller Assembly Removal . . . . .	37
Eprom Removal. . . . .	37
Feed Arm Assembly Removal. . . . .	37
Inside Idler Gears Removal. . . . .	38
Large Feed Roller Assembly Removal . . . . .	38
Left Side Frame Removal . . . . .	39
Maintenance Drive And Rocker Assemblies Removal . . . . .	40
Middle Frame Removal . . . . .	40
Operator Panel Removal. . . . .	40
Outside Idler Gears Removal . . . . .	41
Paper Ejectors Removal . . . . .	41
Paper Feed Motor Removal . . . . .	41
Paper Guide Removal. . . . .	41
Paper Release Lever Removal . . . . .	42
Power Supply Removal . . . . .	42
Print Head Cable Removal . . . . .	43
Right Side Frame Removal . . . . .	44
Rubber Backer Removal . . . . .	45
Small Feed Roller Assembly Removal . . . . .	45
Star Roller Removal . . . . .	45
System Board Removal. . . . .	46
Top Cover Removal. . . . .	47
Connector Locations . . . . .	48
System Board Connectors. . . . .	48
Preventive Maintenance . . . . .	50
Lubrication Specifications . . . . .	50

Parts Catalog ..... 51

    How To Use This Parts Catalog..... 51

        Assembly 1: Covers ..... 52

        Assembly 2: Frames ..... 54

        Assembly 3: Paper Feed ..... 56

        Assembly 3: Paper Feed (Cont.) ..... 58

        Assembly 4: Electronics ..... 60

        Assembly 4: Electronics (Cont.) ..... 62

        Assembly 4 Electronics (Cont.) ..... 64

        Assembly 5: Carrier ..... 66

        Assembly 6: Carrier Transport ..... 68

        Assembly 7: Auto Sheet Feed ..... 70

        Assembly 8: Maintenance Station ..... 72

        Assembly 9: Options ..... 74

Index ..... 76

---

## Notices and Safety Information

References in this publication to products, programs, or services do not imply that the manufacturer intends to make these available in all countries in which it operates. Any reference to a product, program, or service is not intended to state or imply that only that product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any existing intellectual property rights may be used instead. Evaluation and verification of operation in conjunction with other products, programs, or services, except those expressly designated by the manufacturer, are the user's responsibility.

---

## Electronic Emission Notices

Consult the following list for any emission notices that may apply in your country.

### Federal Communications Commission (FCC) Statement

This printer has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult your point of purchase or service representative for additional suggestions.

The manufacturer is not responsible for any radio or television interference caused by using other than recommended cables or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

To assure compliance with FCC regulations for a Class B computing device, use a properly shielded and grounded Lexmark or IBM parallel interface cable, such as Lexmark part number 1525612.

Use of a substitute cable not properly shielded and grounded may result in violation of FCC regulations.

### **Industry Canada Compliance Statement**

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

### **Avis de conformité aux normes d'Industrie Canada**

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

### **The United Kingdom Telecommunications Act 1984**

This apparatus is approved under the approval number NS/G/1234/J/100003 for the indirect connections to the public telecommunications systems in the United Kingdom.

## Japanese VCCI Notice

この装置は、第二種情報装置（住宅地域又はその隣接した地域において使用されるべき情報装置）で住宅地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会（VCCI）基準に適合しております。

しかし、本装置をラジオ、テレビジョン受信機に近接してご使用になると、受信障害の原因となることがあります。

取扱説明書に従って正しい取り扱いをして下さい。

## European Community (EC) Electromagnetic Compatibility Directive

This product is in conformity with the protection requirements of EC Council directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

A declaration of conformity with the requirements of the Directive has been signed by the Director of Manufacturing and Technical Support, Lexmark International, Ltd., Boigny, France.

This product satisfies the Class B limits of EN 55022.

---

## Safety Information

- The maintenance information for this product has been prepared for use by a professional service person and is not intended to be used by others.
- There may be an increased risk of electric shock and personal injury during disassembly and servicing of this product. Professional service personnel should understand this and take necessary precautions.
- The safety features of some parts may not always be obvious. Therefore, replacement parts must have the identical or equivalent characteristics as the original parts.



---

## Sicherheitshinweise

- Die Wartungsinformationen für dieses Produkt sind ausschließlich für die Verwendung durch einen Wartungsfachmann bestimmt.
- Während des Auseinandernehmens und der Wartung des Geräts besteht ein zusätzliches Risiko eines elektrischen Schlags und körperlicher Verletzung. Das zuständige Fachpersonal sollte entsprechende Vorsichtsmaßnahmen treffen.
- Ersatzteile müssen gleiche oder gleichwertige Merkmale wie die Originalteile aufweisen, da nicht immer offensichtlich ist, welche Teile des Geräts Sicherheitsmerkmale aufweisen.

---

## Consignes de Sécurité

- Les consignes d'entretien et de réparation de ce produit s'adressent uniquement à un personnel de maintenance qualifié.
- Le démontage et l'entretien de ce produit pouvant présenter certains risques électriques, le personnel d'entretien qualifié devra prendre toutes les précautions nécessaires.
- Les normes de sécurité de certaines pièces n'étant pas toujours explicites, les pièces de rechange doivent être identiques ou conformes aux caractéristiques des pièces d'origine.

---

## Norme di sicurezza

- Le informazioni riguardanti la manutenzione di questo prodotto sono indirizzate soltanto al personale di assistenza autorizzato.
- Durante lo smontaggio e la manutenzione di questo prodotto, il rischio di subire scosse elettriche e danni alla persona è più elevato. Il personale di assistenza autorizzato, deve, quindi, adottare le precauzioni necessarie.

- Poiché non tutti i pezzi di ricambio garantiscono la stessa sicurezza, questi devono avere caratteristiche identiche o equivalenti a quelle dei pezzi originali.

---

## **Pautas de Seguridad**

- La información sobre el mantenimiento de este producto está dirigida exclusivamente al personal cualificado de mantenimiento.
- Existe mayor riesgo de descarga eléctrica y de daños personales durante el desmontaje y la reparación de la máquina. El personal cualificado debe ser consciente de este peligro y tomar las precauciones necesarias.
- Los dispositivos de seguridad de algunas piezas no siempre pueden reconocerse a simple vista. Por lo tanto, los recambios deben poseer características idénticas o equivalentes a las de las piezas originales.

---

## **Informações de Segurança**

- As informações de segurança relativas a este produto destinam-se a profissionais destes serviços e não devem ser utilizadas por outras pessoas.
- Risco de choques eléctricos e ferimentos graves durante a desmontagem e manutenção deste produto. Os profissionais destes serviços devem estar avisados deste facto e tomar os cuidados necessários.
- Os dispositivos de segurança de algumas peças poderão não ser sempre suficientemente evidentes. Assim, as peças sobressalentes devem possuir características idênticas ou equivalentes às peças originais.

---

## **Informació de Seguretat**

- La informació pel manteniment d'aquest producte està orientada exclusivament a professionals i no està destinada a ningú que no ho sigui.

- El risc de xoc elèctric i de danys personals pot augmentar durant el procés de desmuntatge i de servei d'aquest producte. El personal professional ha d'estar-ne assabentat i prendre les mesures convenients.
- Les característiques de seguretat d'algunes de les peces poden no ser òbvies. Per tant, les característiques dels recanvis hauran de ser idèntiques o equivalents a les de les peces originals.

---

## **Chinese Safety Information**

### **安全资讯**

- 本产品的维护资讯仅供专业服务人员使用，而非针对一般使用者。
- 本产品在拆卸、维修的时候，遭受电击或人员受伤的危险性会增高，专业服务人员对这点必须有所了解，并采取必要的预防措施。
- 有些零件的安全功能可能不明显。因此，所替换零件的性能一定要与原有的零件一致。

---

## Korean Safety Information

### 안전 사항

- 본 제품에 관한 유지 보수 설명서는 전문 서비스 기술자 용으로 작성된 것이므로 비 전문가는 사용할 수 없습니다.
- 본제품을 해체하거나 정비할 경우 전기적인 충격을 받거나 상처를 입을 위험이 커집니다. 전문 서비스 기술자는 이 사실을 숙지하고 필요한 예방 조치를 취하도록 하십시오.
- 일부 부품의 안전성은 항상 보장되지 않습니다. 따라서, 교체 부품은 원래 부품과 같거나 동등한 특성을 가진 제품을 사용하여야합니다.

---

## **General Information**

This manual is used to service both the IBM ExecJet II by Lexmark 4076 and the ExecJet IIc 4076 printers. The ExecJet IIc is capable of using a color print cartridge or a black print cartridge. The ExecJet II uses only a black print cartridge.

Both the ExecJet II and the ExecJet IIc are general purpose high-quality ink jet printers with a customer-replaceable print cartridge containing the ink and the print head. The black print cartridge has a total of 56 nozzles in the print head and can print at 16.7 ips in Letter Quality mode and 30.0 ips in Draft mode. With the black print cartridge installed, the printer prints in two directions with a resolution of 300 x 300 pels per inch in text and graphics. Print Quality Enhancement Technology (PQET) smooths the edges.

The color print cartridge used in the ExecJet IIc has a total of 48 nozzles in the print head using three major colors; cyan, magenta, and yellow. Printing is from left-to-right with the color print cartridge installed and print speeds are 12.0 ips in Letter Quality mode and 24.0 ips in Draft mode.

The ExecJet IIc electronically senses for the correct print cartridge when a print job is sent to the printer. The Ink Low and Busy lights will flash alternately to indicate to the user the correct print cartridge must be installed.

Both printers can handle a variety of paper sizes as well as envelopes and other media using an integrated automatic sheet feeder and manual insert tray.

### **Power Consumption**

- Less than 2 Watts - power off and power to the printer
- 7.5 Watts - Idle Mode (power on - not printing)
- 12 Watts - Printing (average)
- 25 Watts - Printing (peak)

## **Options**

- The following options are available. Some options are not available in every country. Contact your point of purchase for options available in your country.
- Serial Adapter
- Flash Memory Simm - 256K, 1MB, 2MB
- SRAM SIMM - 256K

## **Maintenance Approach**

The diagnostic information in this manual will lead you to the correct field replaceable unit (FRU) or part. Use the error code charts, symptom index, service checks, and diagnostic aids to determine the symptom and repair the failure. Begin with "Start" on page 2-2.

This printer can be serviced without being connected to a host.

After you complete the repair, perform tests as needed to verify the repair.

## **Abbreviations**

CE	Customer Engineer
CPU	Central Processing Unit
CSU	Customer Setup
DRAM	Dynamic Random Access Memory
EP	Electrophotographic Process
ESD	Electrostatic Discharge
FRU	Field Replaceable Unit
HVPS	High Voltage Power Supply
LASER	Light Amplification by Stimulated Emission of Radiation
LCD	Liquid Crystal Display
LED	Light-Emitting Diode
LVPS	Low Voltage Power Supply
MAP	Maintenance Analysis Procedures
NVRAM	Nonvolatile Random Access Memory
OEM	Original Equipment Manufacturer
PC	Photoconductor
PCA	Printed Circuit Assemblies
PICS	Problem Isolation Charts
PIXEL	Picture Element
POST	Power-On Self Test
PQET	Print Quality Enhancement Technology
PSO	Printer Sharing Option
SRAM	Static Random Access Memory
UPR	Used Parts Replacement
V AC	Volts alternating current
V DC	Volts direct current
ZIF	Zero Insertion Force

## **Unique Tools Required For Service**

Wrap Plug (Parallel) P/N = 1319128

---

## Diagnostic Information

Use the error code charts, symptom index, service checks, and diagnostic aids in this chapter to determine the failing part in a malfunctioning printer.

---

### Start

Service error indications show up as flashing operator panel lights. A flashing Draft light always indicates a service related error. If your machine has an error indication, locate the pattern of alternating flashing lights in the following table and take the indicated action.

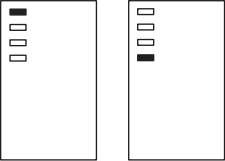
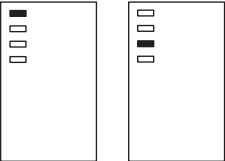
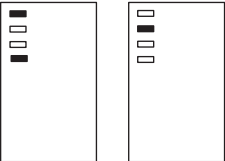
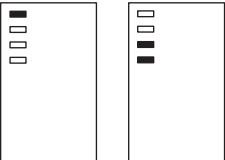
If your machine does not have an error indicator, go to **“Power-on-self-test (Post) Sequence” on page 7**. If an error indicator appears while you are working on the machine, go to the error indicator table and take the indicated action for that error.

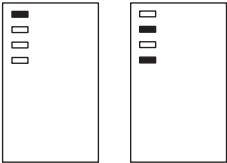
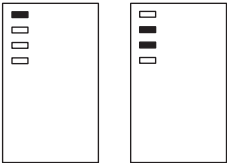
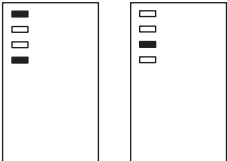
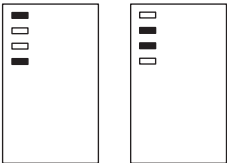
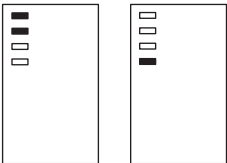
The printer also logs the last occurring error. If you think you may have an intermittent error, or the error indicator lights have been cleared, you can retrieve the error from the Test Page printout:

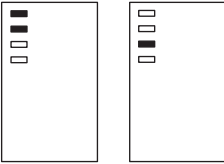
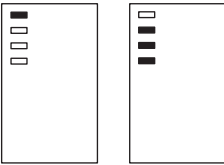
1. Run the **“Test Page” on page 26**.
2. The error is the last number to print on the page in the lower right corner. Note the number.
3. Run **“Initialize Nvram” on page 28** to clear the log (the number may not be the result of a current error).
4. Run Test Page again to verify a current error. If no error prints, go to **“Power-on-self-test (Post) Sequence” on page 7**.



Error Indicator Table

Error Code	Alternating Light Pattern	Action
64 65		Replace the EPROM and/or system board.
66 to 78		Replace the EPROM and/or system board.
No Log		Replace the EPROM and/or system board.
79		Replace the EPROM and/or the system board.

Error Code	Alternating Light Pattern	Action
80		Go to the "Maintenance Station Service Check" on page 12.
81		Go to the "Transport Service Check" on page 22.
85		Go to the "Transport Service Check" on page 22.
84 86 87 88		Go to the "Simm Service Check" on page 22.
89		Go to the "Transport Service Check" on page 22.

Error Code	Alternating Light Pattern	Action
90		Go to the "Transport Service Check" on page 22.
127 and up		Go to the "Maintenance Station Service Check" on page 12.

## Power-on-self-test (Post) Sequence

When you turn the printer on it performs a POST. Turn your machine on and check for a correct POST operation by observing the following:

1. The power light comes on.
2. All four function lights come on and then go off one light at a time starting with the Busy light. The Draft light may take longer than the others to go off.
3. The paper feed gears turn.
4. The carrier moves to the left and right at least one time.
5. The maintenance station cleans and caps the print head.
6. All motors stop and the power light stays on.

If your machine completes POST with no errors, go to the. "Symptom Tables" on page 9, locate your symptom and take the indicated action.

If your machine does not complete POST locate your symptom in the following table and take the indicated action

## POST Symptom Table.

Symptom	Action
No lights come on and no motors run	Go to the "Power Service Check" on page 19.
The Power light is the only light that comes on	Go to the "Operator Panel Service Check" on page 13.
One or more operator panel lights do not come on	Go to the "Operator Panel Service Check" on page 13.
One or more operator panel lights do not go off	Go to the "Operator Panel Service Check" on page 13.
Feeds paper	Go to the "First Print Line Service Check" on page 11.
Paper feed gears do not turn	Go to the "Paper Feed Service Check" on page 14.
Feeds paper and prints	Go to the " Note: if the failure remains, replace the system board" on page 12.
Carrier doesn't move	Go to the "Transport Service Check" on page 22.
Maintenance station doesn't move	Go to the "Maintenance Station Service Check" on page 12.
The printer prints "HARDWARE ERROR HAVE PROTOCOL CONVERTER SERVICED"	Replace the serial adapter.
The carrier moves then error 85 appears	Replace the system board.

## Symptom Tables

Locate your symptom in the following tables and take the appropriate action.

### Carrier Transport Problems

SYMPTOM	ACTION
<ul style="list-style-type: none"> <li>• No carrier movement</li> <li>• Slow carrier movement</li> <li>• Carrier stops</li> </ul>	Go to the <b>"Transport Service Check"</b> on page 22.

### Communications Problem

SYMPTOM	ACTION
Printer not communicating with host.	Go to the <b>"Parallel Port Service Check"</b> on page 18.

### Maintenance Station Problems

SYMPTOM	ACTION
<ul style="list-style-type: none"> <li>• Maintenance station doesn't move</li> <li>• Fails to cap fails to cap the print head the print head</li> <li>• Fails to clean the print head</li> </ul>	Go to the <b>"Maintenance Station Service Check"</b> on page 12.

### Operator Panel Problems

SYMPTOM	ACTION
<ul style="list-style-type: none"> <li>• Panel light(s) not working</li> <li>• Panel button(s) not working</li> <li>• Power Lights the only light that comes on</li> <li>• Panel cover closed, open functions not working</li> </ul>	Go to the <b>"Note: if the failure remains, replace the system board"</b> on page 12.

## Paper Feed Problems

SYMPTOM	ACTION
Paper fails to stop at first print line	Go to the "First Print Line Service Check" on page 11.
<ul style="list-style-type: none"> <li>• Fails to pick paper</li> <li>• Picks more than one sheet of paper</li> <li>• Picks paper but fails to feed</li> <li>• Paper jams</li> <li>• Paper fails to exit</li> <li>• Noisy paper feed</li> </ul>	Go to the "Paper Feed Service Check" on page 14.
Envelopes fail to feed	Go to the "Envelope Feed Service Check" on page 11.
Paper skews	Go to the "Paper Path Service Check" on page 17.

## Power Problems

SYMPTOM	ACTION
No power in machine, no lights, no motors	Go to the "Power Service Check" on page 19.

## Print Quality Problems

SYMPTOM	ACTION
<ul style="list-style-type: none"> <li>• Voids in characters</li> <li>• Light print</li> <li>• Prints off the page</li> <li>• Prints satellites</li> <li>• Carrier moves but does not print</li> <li>• Print head drying out prematurely</li> <li>• Vertical alignment off</li> </ul>	Go to the "Print Quality Service Check" on page 20.
<ul style="list-style-type: none"> <li>• Ink smearing</li> <li>• Vertical streaks on paper</li> <li>• Print lines crowded</li> </ul>	Go to the "Paper Feed Service Check" on page 14.

**SIMM Problem**

SYMPTOM	ACTION
Can't write to SIMM	Go to the "Simm Service Check" on page 22.

---

**Service Checks****Envelope Feed Service Check**

	FRU OR PROCEDURE	ACTION
1	Envelope Loading	<p>Be sure the envelope guides have been turned to the envelope load positions</p> <p>Be sure the envelope guides are against the envelopes</p> <p>Go to and perform the "Paper Feed Service Check" on page 14.</p>

**First Print Line Service Check**

	FRU OR PROCEDURE	ACTION
1	End-of-Forms Flag	Check the flag for binds or damage.
2	End-of-Forms Sensor	Check the sensor for dirt.
3	System Board	Perform the "Paper Sensor Test" on page 26 to check the end-of-forms sensor.
4	Feed Arm Assembly	Check all parts of the feed arm assembly for binds, wear, or damage.
5	Software Setting	Use Toolkit, on the setup diskette, to adjust the Top of Form setting.
6	Operator Panel	Go to the "Note: if the failure remains, replace the system board" on page 12.

## Maintenance Station Service Check

The maintenance station has two functions:

1. Cleans the print head nozzles during the print operation.
2. Seals the print head when it is not being used to prevent the nozzles from drying..

	FRU OR PROCEDURE	ACTION
1	Maintenance Drive Assembly	<p>Disconnect J4 from the system board. Check for 18 ohms (<math>\pm 4</math> ohms) between pins 1 and 2 at the motor. If the reading is incorrect, replace the maintenance drive assembly,</p> <p>Check for motor pins shorted to the motor housing. If you find a shorted pin, replace the maintenance drive assembly. If the symptom remains, replace the system board.</p> <p>A bind in the drive assembly can prevent the motor from turning. Check for binds and loose or worn parts in the drive assembly. Also check the motor gear</p>
2	System Board	Turn the printer off and disconnect J4 from the system board. Turn the printer on and check for a pulse of 15 V dc between J4-1 and ground on the system board as the printer goes through POST.
3	Maintenance Rocker Arm.	Check for binds or wear.
4	Wiper	A worn wiper will cause degraded print quality just after a maintenance cleaning. Check for loose or worn wiper.
5	Cap	A worn cap will cause the print head nozzles to dry and clog. Check for loose or worn cap.

Note: if the failure remains, replace the system board



## Operator Panel Service Check

	FRU OR PROCEDURE	ACTION
1	Power Supply	<p>Disconnect J11 from the system board and check the following voltages on the power supply cable:</p> <p>J11-1 to GND = +5V dc J11-3 to GND = +24V dc</p> <p>If you do not have correct voltage, replace the power supply. Be sure to unplug the machine before you reconnect the power supply to the system board.</p>
2	System Board	Turn the printer on. Check for +5 V dc at test point CE/TP near the operator panel connector on the system board
3	Operator Panel Cover	The operator panel cover actuates the operator panel sensor on the operator panel. Check the cover for any broken parts. Check the operator panel sensor for dirt.
4	Operator Panel Card Operator Panel Cable	Check the operator panel cable for continuity. If the cable is good, replace the operator panel. If the symptom remains, replace the system board.

## Paper Feed Service Check

If your machine does not have paper jam problems, go on to the service check. If your machine does have a paper jam problem, examine it for the following before you begin the service check.

- Check the entire paper path for obstructions.
- Make sure there is not too much paper in the ASF.
- Make sure the correct type of paper is in the machine.
- Check for static in the paper.
- Make sure the rear of the carrier guide is on top of the paper guide.

	FRU OR PROCEDURE	ACTION
1	System Board	With J5 disconnected and power on, check for +24 V dc between J5-3 and ground, and between J5-4 and ground on the system board. If the voltage is not present, check for motor pins shorted to the motor housing. If you find a shorted pin, replace the motor. If you still have a failure after replacing the motor, replace the system board.

	FRU OR PROCEDURE	ACTION
2	Paper Feed Motor	<p>A noisy or chattering motor or a motor that fails to turn, can be caused by:</p> <ul style="list-style-type: none"> <li>• An open or short in the motor</li> <li>• An open or short in the motor driver on the system board</li> <li>• A bind in the paper feed mechanism</li> </ul> <p>Check for 100 ohms (<math>\pm 20</math> ohms) between the following pins on the motor:</p> <p>Pin 1 to Pin 4  Pin 2 to Pin 4  Pin 3 to Pin 5  Pin 3 to Pin 6</p> <p>If the readings are incorrect, replace the motor. Check for motor pins shorted to the motor housing. If you find a shorted pin, replace the motor. If the failure remains, replace the system board.</p> <p>Although the paper feeds in a forward direction only, the paper feed motor turns in two directions. If the paper feed motor turns in one direction only, replace the system board. Binds in the paper feed motor or gear train can cause intermittent false paper jam errors. Remove the paper feed motor and check the shaft for binds Also check for loose or worn motor gear</p>
3	Gears	<p>Check for binds in the gear train and paper feed mechanism. To do this, rotate the largest gear by hand. If you notice a bind isolate it by removing the small idler gear on the outside of the right side plate. Replace any worn or binding gears, rollers, or bearings.</p>

	FRU OR PROCEDURE	ACTION
4	Feed Arm Assembly	At the beginning of the paper feed operation, the paper feed motor reverses momentarily to allow the feed arm pawl to drop off the home position notch in the ASF side plate. If the pawl fails to drop off the notch, check the feed arm assembly for binds, and worn or broken parts.
5	Auto Sheet Feeder	Check the following for wear or damage: Pick Rollers Envelope Bucklers All parts inside the left and right edge guides
6	End-of-Forms Flag	Check for binds or damage.
7	Star Rollers	Check for worn or binding rollers. Check for broken star roller springs.
8	Ejectors	After the paper exits from the exit rollers, the paper feed motor reverses causing the feed arm pawl to restore to the home position in the ASF side plate. At the same time, the paper ejectors move the last sheet of paper into the exit tray. If the ejectors do not move or restore, check them for worn, loose, or broken parts.

## Paper Path Service Check

Examine the machine for the following before you begin this service check:

- Check the entire paper path for obstructions.
- Be sure the paper guides are not worn or broken and are positioned against the paper without binding or buckling the paper.
- Be sure the correct type of paper is in the machine.
- Be sure the rear of the carrier guide is on top of the paper guide.

	FRU OR PROCEDURE	ACTION
1	Large and Small Feed Rollers	Check for wear and binds.
2	Large Feed Roller Springs	Check for damage.
3	Auto Sheet Feeder	Check the following for wear or damage: Envelope Bucklers All parts inside the left and right edge guides
4	End-of-Forms Flag	Check for binds or damage.
5	Exit Roller	Check for wear or binds.
6	Star Rollers	Check for wear or binds. Check for broken star roller springs
7	Ejectors	After the paper exits from the exit rollers, the paper feed motor reverses causing the feed arm pawl to restore to the home position in the ASF side plate. At the same time, the paper ejectors move the last sheet of paper into the exit tray. If the ejectors do not restore, check them for worn, loose, or broken parts.

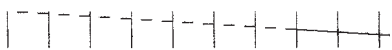
## Parallel Port Service Check

	FRU OR PROCEDURE	ACTION
1	Parallel Port	Run a test page to be sure the printer can print. Run the <b>“Parallel Port Test” on page 28</b> . If the test fails, replace the system board.
2	Serial Adapter	Check the serial adapter green light. If the light is off, replace the serial adapter. Run the <b>“Serial Adapter Test” on page 29</b> . Compare the printout of the switch setting configuration to the switch settings on the serial adapter. If they do not match, the switches could be failing. Try running the Serial Adapter Test again. If the printout still doesn't match the switch settings, or if you don't get a printout replace the serial adapter.

## Power Service Check

	FRU OR PROCEDURE	ACTION
1	Power Supply	<p>Disconnect J11 from the system board and check the following voltages on the power supply cable:</p> <p>J11-1 to GND = +5V dc J11-3 to GND = +24 V dc</p> <p>If you do not have correct voltage, replace the power supply. Be sure to unplug the machine before you reconnect the power supply to the system board.</p>
2	Operator Panel	<p>With the power button depressed, check for 0 ohms at J10-11 on the front of the operator panel connector. If the reading is incorrect, check the operator panel cable for continuity. If the cable has continuity, replace the operator panel.</p>
3	Print Head Cable Simm Card Parallel Cable	<p>Turn off the printer. Disconnect one of the listed components and turn on the printer. Look for a symptom change. Check the failing part for shorts and replace as necessary. Repeat this procedure for the remaining listed parts.</p>
4	System Board	<p>If the symptom has not changed, replace the system board.</p>

## Print Quality Service Check

	FRU OR PROCEDURE	ACTION
1	Print Cartridge	Be sure the machine has a known good print cartridge.
2	Print Head Carrier Assembly	<p>Reseat the print head cable in the system board and check the following parts for wear or damage:</p> <p>Print Cartridge Latch Latch Spring Carrier</p>
3	Purge Test	<p>Perform the <b>"Purge Test"</b> on page 25. Look for a break in the diagonal line at the bottom of the test pattern. A broken line indicates one or more print nozzles are not working. Run the test again to verify the failure. If there are even breaks in the diagonal line similar to the pattern shown below, replace the system board.</p>  <p>If there is a single break or random breaks in the diagonal line check the following:</p> <ul style="list-style-type: none"> <li>• Print head cable - check the gold-plated contacts on the end of the cable that connects to the carrier for dirt and wear. Use only a clean dry cloth to clean the contacts. Also check the cable for damage. You may need to remove the cable from the carrier to inspect it.</li> <li>• Rubber Backer - a worn rubber backer will result in poor contact between the print head cable and the print cartridge. Check the rubber backer for wear</li> </ul>



	FRU OR PROCEDURE	ACTION
4	Maintenance Station	Intermittent nozzle failures can be caused by worn parts in the maintenance station. Go to and perform the <b>"Maintenance Station Service Check"</b> on page 12, then return to this check.
5	Paper Feed	<p>Ink smudging and smearing can be caused by paper problems or problems in the paper feed area. Check:</p> <ul style="list-style-type: none"> <li>• Correct type of paper is in the machine. Also check the paper for curl and wrinkles.</li> <li>• Feed roller for wear, dirt, or looseness</li> <li>• Gears for wear or binds</li> <li>• Paper path for obstructions</li> <li>• Star rollers for binds or dirt. The exit roller and star rollers keep tension on the paper by moving slightly faster than the feed rollers. A binding star roller can put vertical marks on the paper.</li> </ul>
6	Transport	<p>Blurred print and voids can be caused by problems in the transport area. Check the following:</p> <ul style="list-style-type: none"> <li>• Transport belt for wear.</li> <li>• Carrier guide and carrier guide rod for wear or dirt.</li> <li>• Idler pulley parts for wear, damage, or looseness.</li> <li>• Encoder strip for wear or dirt.</li> </ul>
7	BiDirectional Alignment	Uneven vertical lines can be adjusted by performing the <b>"Bi-directional Alignment Adjustment"</b> on page 31.

## Simm Service Check

	FRUU or PROCEDURE	Action
1	SIMM Card	<p>Try the following:</p> <ol style="list-style-type: none"> <li>1. Reseat the SIMM card.</li> <li>2. Use Toolkit, on the setup diskette, to format the SIMM card.</li> <li>3. Try a known good SIMM card. If the failure continues, replace the system board.</li> </ol>

## Transport Service Check

	FRU OR PROCEDURE	ACTION
1	Transport Motor	<p>Check the motor for binds, or loose motor pulley.</p> <p>Disconnect the transport motor (J6) from the system board. Check for 8 to 18 ohms between pins 1 and 2 on the motor cable. If the reading is incorrect, replace the motor.</p> <p>Check for motor pins shorted to the motor housing. If you find a pin shorted to the housing, replace the motor. If the failure remains, replace the system board.</p>
2	System Board	<p>Turn the printer off and disconnect J6 from the system board. Turn the printer on and check for a pulse of 3 to 5 V dc between J6-1 and ground and between J6-2 and ground on the system board as the machine goes through POST.</p>
3	Transport Belt Carrier Guide or Guide Rod Idler Pulley Parts Cable Clip	<p>Check for worn, loose or broken parts. Clean the carrier guide rod. Do not lubricate the rod or the carrier rod bearings. Check for obstructions blocking carrier movement.</p>
4	Encoder Strip	<p>Check for wear and dirt.</p>

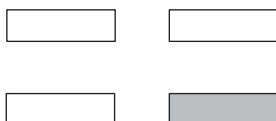
	FRU OR PROCEDURE	ACTION
5	Print Head Cable	Be sure connector J1 is fully seated. Check the cable for damage.
6	Encoder Strip Print Head Cable, System Board	Perform the "Encoder Sensor Test" on page 27. If you cannot enter the test, replace the system board.
7	Maintenance Station	A problem with the maintenance station can cause carrier movement problems at the right margin. Go to the "Maintenance Station Service Check" on page 12.

## Diagnostic Aids

Use these diagnostic test procedures to verify a repair. The test procedures are entered by pressing and holding a button, or buttons, as you turn on the printer. Except for the Hex Print test procedure, the printer does not need to be attached to a host to run the tests. You can press the buttons with the operator panel cover open or closed. You must hold the buttons until all the lights are off. To terminate a test press the Reset button, or turn the printer off. The button pattern is illustrated for each test. Press the buttons that are shaded.

### Demo Test

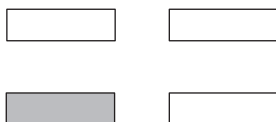
Perform this test with a black print cartridge installed.



This test prints a two-page demo pattern. Use this test to check the overall quality of line print and graphics.

### Print Fonts Test

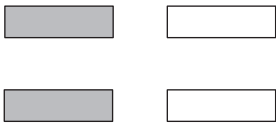
Perform this test with a black print cartridge installed.



This test prints a sample of each font installed in the printer. This includes resident fonts and fonts stored in FLASH memory. Fonts downloaded to RAM cannot be printed with this test because the power off/on sequence deletes all RAM fonts. This test also lists the emulation mode and the installed options.

Purge Test

Perform this test with a black print cartridge installed.

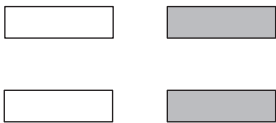


This test prints out a nozzle test pattern followed by several grey lines and another nozzle test pattern. Use this test to check the function of all the nozzles in the print cartridge. This test also checks the electronic connection to the print cartridge. During the test, the print cartridge head goes through a maintenance cleaning at the maintenance station.

Running this test with a color print cartridge installed will clear the nozzles in the cartridge.

Print Nvram

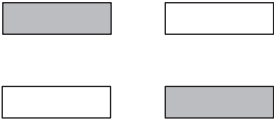
Perform this test with a black print cartridge installed. In addition to holding down the buttons, ExecJet IIc requires that you place a piece of paper in the manual feed slot to push the EOF flag out of the sensor.



This test prints the contents of NVRAM.

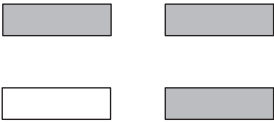
## Test Page

Perform this test with a black print cartridge installed.



This test repeatedly prints the nozzle test pattern followed by a sample of each font installed in the printer including resident fonts as well as fonts stored in FLASH memory. This test continues until you press the Reset button or turn off the printer. The error number is the last number to print on the page in the lower right corner.

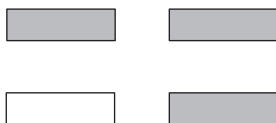
## Paper Sensor Test



Release the buttons after the maintenance station uncaps the print head.

In the paper sensor mode, the draft light displays the status of the paper sensor (On=paper not present). Check the paper sensor by either activating the end-of-forms flag or by placing a piece of paper in the paper sensor. The draft light goes on and off as you move the flag past the sensor. If the test fails, replace the system board.

## Encoder Sensor Test



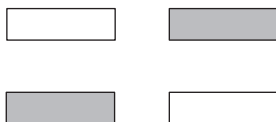
Release the button after the maintenance station uncaps the print head.

For this test the bottom three operator panel lights display the current carrier position as determined by the carrier encoder. The printer motors are disabled during this test to allow you to manually move the carrier to verify the encoder is working correctly. The bottom 3 lights will repeat a count of 0 to 7 as you move the carrier across the machine with the Ink Low Light = 1, the Paper Out Light = 2, and the Busy Light = 4.

If the lights do not change, replace the print head cable. If the lights appear to have a break in the sequence, replace the encoder strip. If the bottom 3 lights do not come on, replace the print head cable. If the symptom remains, replace the system board.

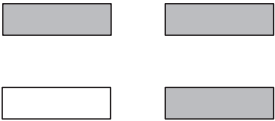
## Hex Print

Perform this test with a black print cartridge installed.



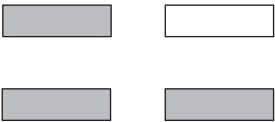
Use this test to put the printer in hex mode. The printer prints in hexadecimal instead of ASCII.

Parallel Port Test



This test requires a parallel port wrap plug. Install the wrap plug in the parallel port before you start the test. This test performs a wrap-around test between the printer parallel port and the parallel port test connector. If the test is successful, the top two lights and bottom two lights blink alternately. If the test is not successful, only the bottom two lights will blink.

Initialize Nvram



Use this procedure to reset the error log portion of NVRAM. The paper sensor must be open to perform this function. To do this, place a piece of paper in the manual paper feed slot before you turn the machine on. Except for bi-directional alignment settings, all user settings and defaults will not be reset. Resetting the error log allows you to track new errors. The error log is especially helpful in diagnosing intermittent or difficult problems. Check the bi-directional alignment after you do this procedure.



## **Serial Adapter Test**

Perform this test with a black print cartridge installed.

This test checks out the connection between the serial adapter and the printer. To run the test:

1. Turn the machine off.
2. Set switch 10 on the serial adapter card to ON.
3. Turn the machine on to print out the current switch settings and a test pattern.
4. You may have to press Forms Feed to print the test.

---

## Repair Information

This chapter explains how to make adjustments to the printer and how to remove defective parts.

**WARNING:** Read the following before handling electronic parts.

### Handling ESD-sensitive Parts

Many electronic products use parts that are known to be sensitive to electrostatic discharge (ESD). To prevent damage to ESD-sensitive parts, follow the instructions below in addition to all the usual precautions, such as turning off power before removing logic boards:

- Keep the ESD-sensitive part in its original shipping container (a special “ESD bag”) until you are ready to install the part into the machine.
- Make the least-possible movements with your body to prevent an increase of static electricity from clothing fibers, carpets, and furniture.
- Put the ESD wrist strap on your wrist. Connect the wrist band to the system ground point. This discharges any static electricity in your body to the machine.
- Hold the ESD-sensitive part by its edge connector shroud (cover); do not touch its pins. If you are removing a pluggable module, use the correct tool.
- Do not place the ESD-sensitive part on the machine cover or on a metal table; if you need to put down the ESD-sensitive part for any reason, first put it into its special bag.
- Machine covers and metal tables are electrical grounds. They increase the risk of damage because they make a discharge path from your body through the ESD-sensitive part. (Large metal objects can be discharge paths without being grounded.)
- Prevent ESD-sensitive parts from being accidentally touched by other personnel. Install machine covers when you are not working on the machine, and do not put unprotected ESD-sensitive parts on a table.
- If possible, keep all ESD-sensitive parts in a grounded metal cabinet (case).

- Be extra careful in working with ESD-sensitive parts when cold-weather heating is used because low humidity increases static electricity.

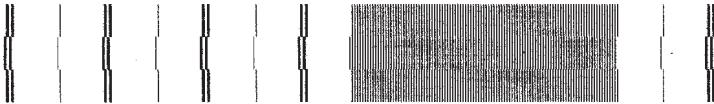
---

## Adjustments

### Bi-directional Alignment Adjustment

Perform this adjustment with the black print cartridge installed.

1. Turn off the printer.
2. Hold down the Install Print Cartridge button and the Line Feed Button, then turn on the printer. Release the buttons when all the lights go out.
3. A page loads and the bi-directional alignment pattern prints. The pattern consists of three lines of vertical bars. The bars are aligned when the adjustment is correct. The following sample requires the center vertical bars to be moved to the right.



4. The center bars can be coarse aligned or fine aligned. Coarse alignment moves the center bar 1/300" (.085mm). Fine alignment moves the center bar 1/1200" (.021mm). To perform the coarse alignment, open the operator panel cover and use the top two buttons to move the center bar. Press the left button to move the bar to the left. Press the right button to move the bar to the right. Each time you press the button the three lines will print.
5. To fine align the bars, close the operator panel cover and use the two bottom buttons. Press the left button to move the center bar to the left. Press the right button to move the bar to the right. Each time you press a button the three lines will print.
6. When the alignment is correct, press the Draft button to switch to the draft mode. Follow the same procedure as above to align the bars in the draft mode.
7. When you complete the adjustment and turn off the printer the settings will be saved in NVRAM.

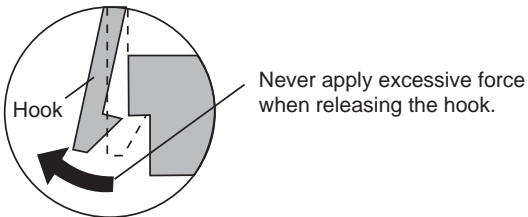
---

## Removal Procedures

The following procedures are arranged in alphabetical order according to the name of the printer part discussed. When there is artwork to support a procedure, it follows the text.

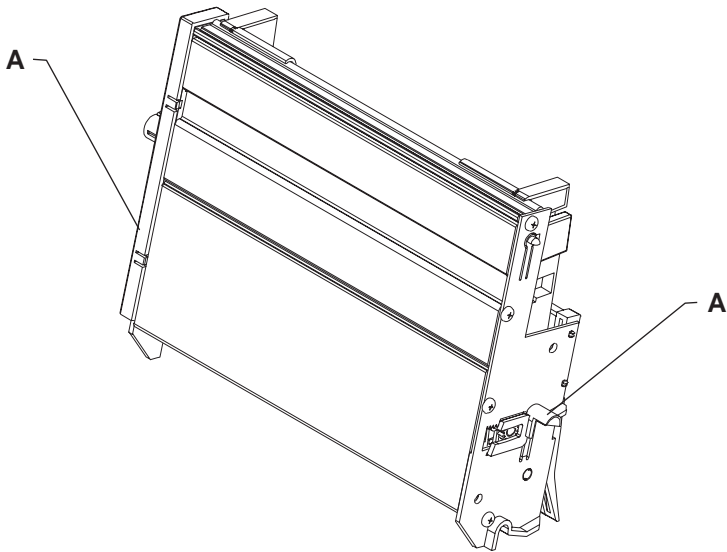
### Releasing Plastic Latches

Many of the parts are held in place with plastic latches. To remove such parts, press the hook end of the latch away from the part to which it is latched. The latches break easily. Release them carefully.



## Auto Sheet Feed (ASF) Assembly Removal

1. Remove the top cover.
2. Push in the two latches [A] that secure the auto sheet feed to the side frame, then lift up the auto sheet feed to remove it from the machine.



When you reinstall the auto sheet feed, be sure the feed arm assembly is vertical, with the feed pawl at the top.

## ASF Envelope Buckler And Pick Roller Hub Removal

1. Remove the ASF.
2. Remove the inside C-clip from the pick roller shaft and pull the shaft to the right far enough to remove the envelope bucklers and pick rollers.
3. Remove the pick roller hubs from the bucklers.

## **ASF Right And Left Edge Guide Assemblies Removal**

1. Remove the auto sheet feed.
2. Remove the manual insert tray by prying one of the side frames away from it.
3. Remove the inside C-clip from the pick roller shaft and pull the shaft out to the right.
4. Remove the pick roller and buckler assemblies.
5. Remove the paper load lever knob from the load lever.
6. Remove the auto sheet feed right side cover by prying up at the slots in the rear.
7. Remove the paper load lever and shaft by pulling them out from the right side of the ASF assembly. Be careful not to lose the small gear on the left end of the shaft. When you reinstall this shaft, it must be parallel with the ASF housing.
8. Pivot the guide assembly up and pry it off the back plate.

## **ASF Paper Load Lever Removal**

1. Remove the auto sheet feed assembly.
2. Pull the paper load lever knob from the load lever.
3. Remove the auto sheet feed right side cover by prying up the slots in the rear.
4. Remove the paper load lever from the mounting stud.

## **Carrier Removal**

1. Remove the top cover.
2. Remove the print cartridge.
3. Disconnect the print head cables from the system board. You may have to open the print head cable connectors on the system board first, then disconnect the cables.
4. Move the carrier in line with the opening in the carrier transport motor frame.
5. Reach through the opening and pull the belt from the carrier.
6. To unlock the carrier guide rod latches, rotate the rod top-to-rear. Gently push the carrier guide rod latches, at each end of the rod, to the rear and lift up the rod until the sensor on the carrier clears the encoder strip. Remove the carrier guide rod through the opening in the left side frame. Be careful not to damage the encoder strip.
7. Pull the ends of the print head cables into the machine, then remove the cables from the 4 retainers in the paper guide starting from the right.

## Carrier Transport Belt Removal

1. Remove the top cover.
2. Move the carrier in line with the opening in the carrier transport motor frame.
3. Reach through the opening and pull the belt from the carrier.
4. Remove the belt from the carrier transport motor pulley.
5. Remove the belt from the idler pulley and pull it through the opening in the left side frame.

**Note:** When you reinstall the belt be sure to insert the bottom of the belt into BOTH the lower and upper belt grips on the carrier. DO NOT INSERT THE TOP OF THE BELT INTO THE TOP GRIP.

## Carrier Guide Removal

You may remove the carrier guide without removing the covers if you carefully follow this procedure.

1. Open and remove the access cover.
2. Remove the print cartridge.
3. With the carrier centered, carefully release the 2 carrier guide rod latches and lift the shaft slightly.
4. Unlatch the 2 carrier guide latches by pushing to the rear.
5. Gently push the carrier to the extreme right and remove the carrier guide.

When you reinstall the carrier guide, be sure the fingers on the bottom of the carrier engage the groove on the carrier guide before you snap the carrier guide rod down.

## Carrier Transport Motor Removal

1. Remove the top cover.
2. Disconnect the carrier transport motor (J6) from the system board.
3. Remove the 2 motor mounting screws and remove the motor.

## Carrier Transport Motor Frame Removal

1. Remove the top cover.
2. Disconnect J6 from the system board.
3. Move the carrier in line with the opening in the carrier transport motor frame.
4. Reach through the opening and pull the belt from the carrier.
5. To unlock the carrier guide rod latches, rotate the rod top-to-rear. Gently push the carrier guide rod latches, at each end of the rod, to the rear and lift up the rod until the sensor on the carrier clears the encoder strip. Remove the carrier guide rod through the opening in the left side frame. Be careful not to damage the encoder strip.
6. A latch on the top front end of each side frame holds the transport motor frame in place. Push up the latches on the front of the side frames and pivot the carrier transport motor frame down and out of the side frames.

## Encoder Strip Removal

1. Remove the top cover.
2. Move the carrier in line with the opening on the carrier transport motor frame.
3. Reach through the opening and pull the belt from the carrier.
4. To unlock the carrier guide rod latches, rotate the rod top-to-rear. Gently push the carrier guide rod latches at each end of the rod to the rear and lift up the rod until the sensor on the carrier clears the encoder strip. Place the carrier on top of the paper guide.
5. Remove the encoder strip from the left mounting peg. To do this, push the right latch slightly to the left.
6. Remove the encoder strip from the right latch.

When you install the encoder strip, be sure it is fully seated on the left mounting peg.



## **End-of-forms Flag Removal**

1. Remove the top cover.
2. Remove the ASF.
3. Disconnect the print head cables from the system board. You may have to open the print head cable connectors on the system board first, then disconnect the cables
4. Disconnect connectors J4, J5, and J6 from the system board. 5. Remove the machine from the base. To do this, unlatch the 4 base frame latches. Lift the machine from the base and set it on its front with the bottom facing you.
5. Pivot the weighted end of the end-of-forms flag through the opening in the middle frame.
6. Lift the flag up and out of the machine.

## **Exit Roller Assembly Removal**

1. Remove the top cover.
2. Remove the carrier transport frame.
3. Pivot the paper ejector pusher toward the front then pull it to remove the paper ejector from the shaft.
4. Remove the bushing from the left end of the exit shaft. To do this, pull the tab and rotate the bushing.
5. Slide the exit roller to the left and lift it out of the machine.

## **Eprom Removal**

1. Remove the top cover.
2. Disconnect the print head cables from the system board. You may have to open the print head cable connectors on the system board first, then disconnect the cables.
3. Disconnect connectors J4, J5, and J6 from the system board.
4. Remove the machine from the base. To do this, push the frame latches out as you lift the machine from the base. Set the machine aside.
5. Gently pry the EPROM from the system board.

## **Feed Arm Assembly Removal**

1. Remove the top cover.
2. Remove the auto sheet feed.
3. Remove the C-clip from the center of the large gear and remove the feed arm assembly.

## **Inside Idler Gears Removal**

1. Remove the top cover.
2. Remove the auto sheet feed.
3. Disconnect the print head cables from the system board. You may have to open the print head cable connectors on the system board first, then disconnect the cables.
4. Remove the paper guide.
5. Remove the C-clip from the feed arm assembly and remove the feed arm assembly.
6. Pull the idler gears off the mounting studs.

## **Large Feed Roller Assembly Removal**

1. Remove the top cover.
2. Disconnect the print head cables from the system board. You may have to open the print head cable connectors on the system board first, then disconnect the cables.
3. Disconnect connectors J4, J5, and J6 from the system board. 4. Remove the machine from the base. To do this, push the frame latches out as you lift the machine from the base. Set the machine aside.
4. Place the machine on its front with the bottom facing you.
5. Disconnect the 3 springs from the bottom of the middle frame assembly.
6. Remove the large feed roller assembly.

## Left Side Frame Removal

1. Remove the top cover.
2. Remove the print cartridge.
3. Remove the auto sheet feed.
4. Disconnect the print head cables from the system board. You may have to open the print head cable connectors on the system board first, then disconnect the cables.
5. Disconnect connectors J4, J5, and J6 from the system board.
6. Remove the machine from the base. To do this, push the frame latches out as you lift the machine from the base. Set the machine aside.
7. Move the carrier in line with the opening in the carrier transport motor frame.
8. Reach through the opening and pull the belt from the carrier.
9. To unlock the carrier guide rod latches, rotate the rod top-to-rear. Gently push the carrier guide rod latches, at each end of the rod, to the rear and lift up the rod until the sensor on the carrier clears the encoder strip. Remove the carrier guide rod through the opening in the left side frame. Be careful not to damage the encoder strip.
10. Pull the ends of the print head cables into the machine, then remove the cables from the 4 retainers in the paper guide starting from the right.
11. Disengage the left paper guide latch by carefully moving the rear of the left side frame to the left.
12. Disengage the right side of the paper guide from the latch and lift it from the machine.
13. A latch on the top front end of each side frame holds the transport motor frame in place. Push up the latches on the front of the side frames, then pivot the carrier transport motor frame down and out of the side frames.
14. Place the machine on its back and push the left side frame latch to the rear and remove the frame from the machine.

When you reinstall the paper guide, be sure the front edge goes under the rear of the carrier guide. If the paper guide is on top of the carrier guide, push down the front, bottom edge. It will snap under the carrier guide.

To install the left side frame onto the middle frame, align the right side frame latch with the latching surface on the middle frame before you align the roller shafts and carrier guide. It may be easier to do this with the machine on its right side.

## **Maintenance Drive And Rocker Assemblies Removal**

1. Remove the top cover.
2. Remove the auto sheet feed.
3. Remove the right side frame.
4. Gently unlatch the maintenance assembly latches, and slide out the maintenance drive assembly, then the rocker assembly.

When you reassemble the drive assembly, be sure the forks engage the pins on the rocker assembly.

## **Middle Frame Removal**

1. Remove the top cover.
2. Remove the print cartridge.
3. Remove the auto sheet feed.
4. Disconnect the print head cables from the system board. You may have to open the print head cable connectors on the system board first, then disconnect the cables.
5. Disconnect J4, J5, and J6 from the system board.
6. Remove the machine from the base. To do this, unlatch the 4 base frame latches. Lift the machine from the base and set it aside.
7. Remove the paper ejectors from the middle frame.
8. Remove the left side frame.
9. Remove the exit shaft.
10. Remove the small feed roller shaft.
11. Remove the large feed roller shaft and springs.
12. Remove the end-of-forms flag.
13. Remove the right side frame.
14. Remove the maintenance station.

## **Operator Panel Removal**

1. Remove the top cover.
2. Remove the 3 operator panel mounting screws.
3. Remove the operator panel.

## Outside Idler Gears Removal

1. Remove the top cover.
2. Disconnect the print head cables from the system board. You may have to open the print head cable connectors on the system board first, then disconnect the cables.
3. Each gear is latched in place. Push up the latch and remove the gear from the side frame stud by pulling the gear from the bottom.

## Paper Ejectors Removal

1. Remove the top cover.
2. Pivot the paper ejector pusher toward the front then pull it to remove the paper ejector from the shaft.
3. Unsnap the paper ejectors from the middle frame.

## Paper Feed Motor Removal

1. Remove the top cover.
2. Disconnect the paper feed motor from the system board.
3. Remove the two mounting screws or rotate the paper feed motor counter-clockwise to remove it from the right side frame.

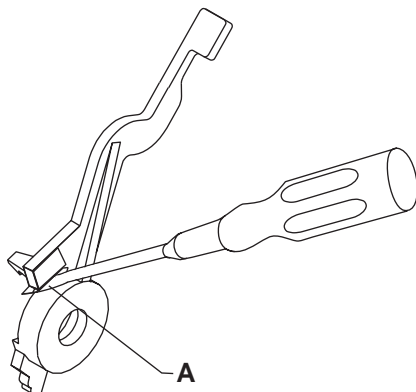
## Paper Guide Removal

1. Remove the top cover.
2. Remove the auto sheet feed.
3. Disconnect the print head cables from the system board. You may have to open the print head cable connectors on the system board first, then disconnect the cables.
4. Pull the ends of the print head cables into the machine, then remove the cables from the 4 retainers in the paper guide starting from the right.
5. Disengage the left paper guide latch by carefully moving the rear of the left side frame to the left.
6. Disengage the right side of the paper guide from the latch and lift it from the machine.

**Note:** When you reinstall the paper guide, be sure the front edge goes under the rear of the carrier guide. If the paper guide is on top of the carrier guide, push down the front, bottom edge. It will snap under the carrier guide.

## Paper Release Lever Removal

1. Remove the top cover.
2. Pull the paper release lever forward.
3. Place a screw driver into the slot [A] of the paper release lever. Push the screw driver down to release the latch, then remove the lever.



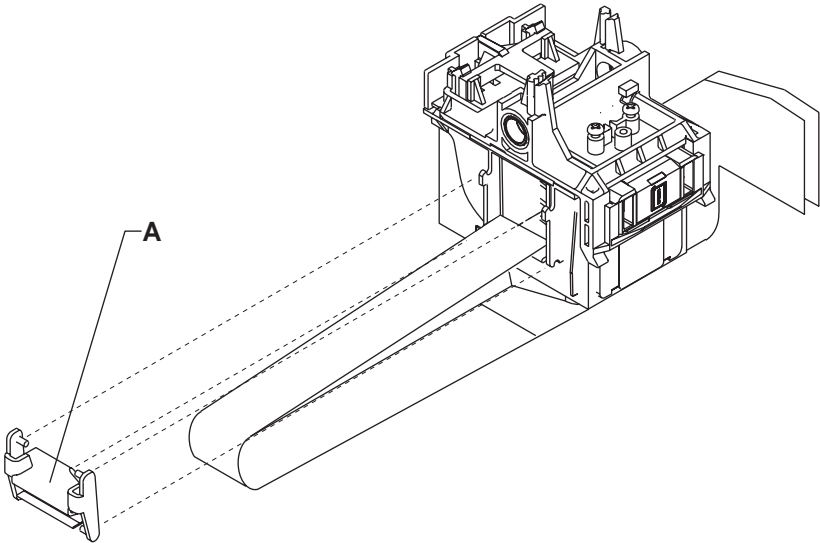
## Power Supply Removal

1. Remove the top cover.
2. Disconnect the print head cables from the system board. You may have to open the print head cable connectors on the system board first, then disconnect the cables.
3. Disconnect connectors J4, J5, and J6 from the system board.
4. Remove the machine from the base. To do this, push the frame latches out as you lift the machine from the base. Set the machine aside.
5. Disconnect the power supply cable from the system board.
6. Remove the 4 power supply mounting screws and remove the power supply.

**NOTE:** The fuse on the power supply is for safety purposes only. If it blows, there is a bad component on the board. Do not replace the fuse. A new fuse will not correct the failure.

## Print Head Cable Removal

1. Remove the top cover.
2. Remove the print cartridge.
3. Remove the carrier.
4. Remove the cable clip [A] from the left side of the carrier.
5. Remove the pointer from the front of the carrier.



6. Remove the 2 sensor mounting screws.
7. Push down the 2 latches that secure the cradle to the carrier and pull the cradle up from the carrier.
8. Remove the print head cable from the alignment pins.

The new cable comes without the folds in it. Place the new cable next to the old cable and fold the new cable in the appropriate places.

## Right Side Frame Removal

1. Remove the top cover.
2. Remove the print cartridge.
3. Remove the auto sheet feed.
4. Disconnect the print head cables from the system board. You may have to open the print head cable connectors on the system board first, then disconnect the cables.
5. Disconnect connectors J4, J5, and J6 from the system board.
6. Remove the machine from the base. To do this, push the frame latches out as you lift the machine from the base. Set the machine aside.
7. Move the carrier in line with the opening in the carrier transport motor frame.
8. Reach through the opening and pull the belt from the carrier.
9. To unlock the carrier guide rod latches, rotate the rod top-to-rear. Gently push the carrier rod guide latches, at each end of the rod, to the rear and lift up the rod until the sensor on the carrier clears the encoder strip. Remove the carrier rod guide through the opening in the left side frame. Be careful not to damage the encoder strip.
10. Pull the ends of the print head cables into the machine, then remove the cables from the 4 retainers in the paper guide starting from the right.
11. Disengage the left paper guide latch by carefully moving the rear of the left side frame to the left.
12. Disengage the right side of the paper guide from the latch and lift the guide from the machine.
13. A latch on the top front end of each side frame holds the transport motor frame in place. Push up the latches on the front of the side frames, then pivot the carrier transport motor frame down and out of the side frames.
14. Place the machine on its back, then unlatch the right frame latch from the middle frame and remove the side frame.

**NOTE:** for reassembly you may want to remove the carrier guide and reinstall it after you install the paper guide.

When you reinstall the paper guide, be sure the front edge goes under the rear of the carrier guide. If the paper guide is on top of the



carrier guide, push down the front, bottom edge. It will snap under the carrier guide.

To install the right side frame onto the middle frame, align the right side frame latch with the latching surface on the mid frame before you align the roller shafts and carrier guide. It may be easier to do this with the machine on its left side.

## **Rubber Backer Removal**

1. Remove the top cover.
2. Remove the print cartridge.
3. Remove the print head cable.
4. Remove the rubber backer from the carrier.

## **Small Feed Roller Assembly Removal**

1. Remove the top cover.
2. Remove the auto sheet feed.
3. Remove the paper guide
4. Carefully remove the paper release lever.
5. Remove the bushing from the left end of the small feed roller shaft. To do this, pull the tab and rotate the bushing.
6. Slide the small feed roller assembly to the left and lift it out of the machine.

## **Star Roller Removal**

1. Remove the top cover.
2. Move the carrier in line with the opening on the carrier transport motor frame.
3. Reach through the opening and pull the belt from the carrier.
4. To unlock the carrier guide rod latches, rotate the rod top-to-rear. Gently push the carrier guide rod latches at each end of the rod to the rear and lift up the rod until the sensor on the carrier clears the encoder strip. Place the carrier on top of the paper guide.
5. A latch on the top front end of each side frame holds the transport motor frame in place. Push up the latches on the front of the side frames and pivot the carrier transport motor frame down and out of the side frames. Place the carrier transport motor frame face down in front of the machine.
6. Remove the star roller by pushing it forward off the mounting peg in the carrier transport motor frame.

## System Board Removal

1. Remove the top cover.
2. Disconnect the print head cables from the system board. You may have to open the print head cable connectors on the system board first, then disconnect the cables.
3. Disconnect connectors J4, J5, and J6 from the system board. 4. Remove the machine from the base. To do this, push the frame latches out as you lift the machine from the base. Set the machine aside.
4. Disconnect the power supply cable from the system board.
5. Remove the 6 system board mounting screws and remove the system board.
6. Check the bi-directional alignment adjustment.

After replacing the system board, reset the printer to the factory defaults as follows:

For countries using 8.5 x 11 paper:

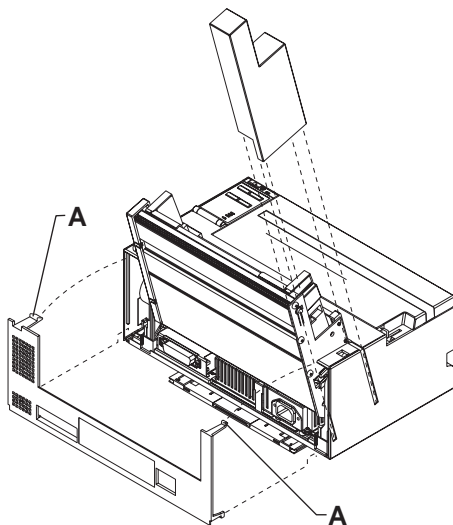
1. Turn off the printer.
2. Hold down the Form Feed, Line Feed, and Install Ink Cartridge buttons and turn on the printer. Continue to hold down the buttons until all the lights are off.
3. Check the bi-directional alignment.

For countries using A4 paper:

1. Turn off the printer.
2. Place a piece of paper in the manual feed slot to push the EOF flag out of the sensor.
3. Hold down the Install Print Cartridge, Form Feed and Draft/Letter Quality buttons and turn on the printer. Continue to hold down the buttons until all the lights are off.
4. Check the bi-directional alignment.

## Top Cover Removal

1. Unplug the power cord and the interface cable from the back of the printer.
2. Pull up the tab latch on the print cartridge storage unit and remove the unit from the machine.
3. Unlatch the auto sheet feed left cover by pushing it up from the bottom, then slide it off the machine.
4. Turn the machine around to remove the rear cover. Remove the screw and washer from the rear cover. Place a screwdriver in the left slot [A] and push the latch down. At the same time push the right latch [A] down.



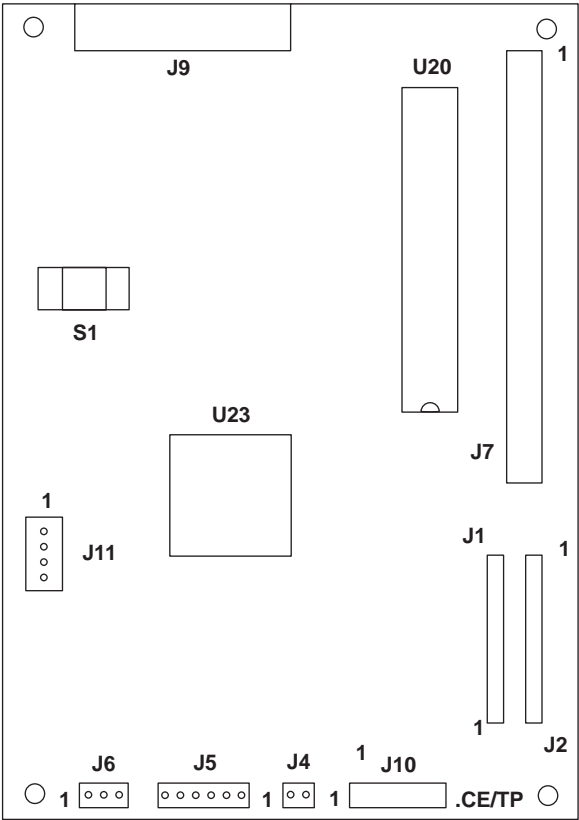
5. Pull the rear cover out until the latches clear the top cover, then lift the cover off the base.
6. Turn the machine to the front and pull the paper tray forward.
7. Pull the top cover forward until it stops. Be sure the paper release lever clears the slot in the top cover. The operator panel cable is still connected, so carefully lift the cover off the base.
8. Set the cover down in front of the machine.
9. Pull the operator panel cable from the connector on the system board.

**NOTE:** When you reinstall the top cover, pull out the exit tray to prevent it from being trapped under the cover.

# Connector Locations

This chapter shows the locations of major printer assemblies, connectors, and ground straps.

## System Board Connectors



Connector	Connector Names
J1	Print Head Cable
J2	Print Head Cable

Connector	Connector Names
J4	Maintenance Motor
J5	Paper Feed Motor
J6	Transport Motor
J7	FLASH/RAM SIMM Option
J9	Parallel Port
J10	Operator Panel
J11	Power Supply
U20	Code Module

---

## Preventive Maintenance

This chapter contains the lubrication specifications. Following these recommendations can help prevent problems and maintain optimum performance.

### Lubrication Specifications

Lubricate only when parts are replaced or as needed, not on a scheduled basis. Use no. 23 grease to lubricate the following:

- All gear mounting studs
- The right end of the exit roller at the right side frame
- The right end of the small feed roller at the right side frame
- The left end of the large feed roller at the left side frame
- Both ends of the ASF pick roll shaft at the ASF side frames
- Transport belt idler pulley hole
- Inside surface of the transport idler pulley tension wedge where it touches the left side frame.

Do not lubricate the carrier guide rod or carrier guide rod bearings.

## Parts Catalog

### How To Use This Parts Catalog

- **SIMILAR ASSEMBLIES:** If two assemblies contain a majority of identical parts, they are broken down on the same list. Common parts are shown by one index number. Parts peculiar to one or the other of the assemblies are listed separately and identified by description.
- **AR: (As Required)** in the Units column indicates that the quantity is not the same for all machines.
- **NP: (Non-Procureable)** in the Units column indicates that the part is non-procureable and that the individual parts or the next higher assembly should be ordered.
- **NR: (Not Recommended)** in the Units column indicates that the part is procureable but not recommended for field replacement, and that the next higher assembly should be ordered.
- **R: (Restricted)** in the Units column indicates that the part has a restricted availability.
- **NS: (Not Shown)** in the Asm-Index column indicates that the part is procureable but is not pictured in the illustration.
- **INDENTURE:** The indenture is marked by a series of dots located before the parts description. The indenture indicates the relationship of a part to the next higher assembly. For example:

#### INDENTURE RELATIONSHIP OF PARTS

(No dot) MAIN ASSEMBLY

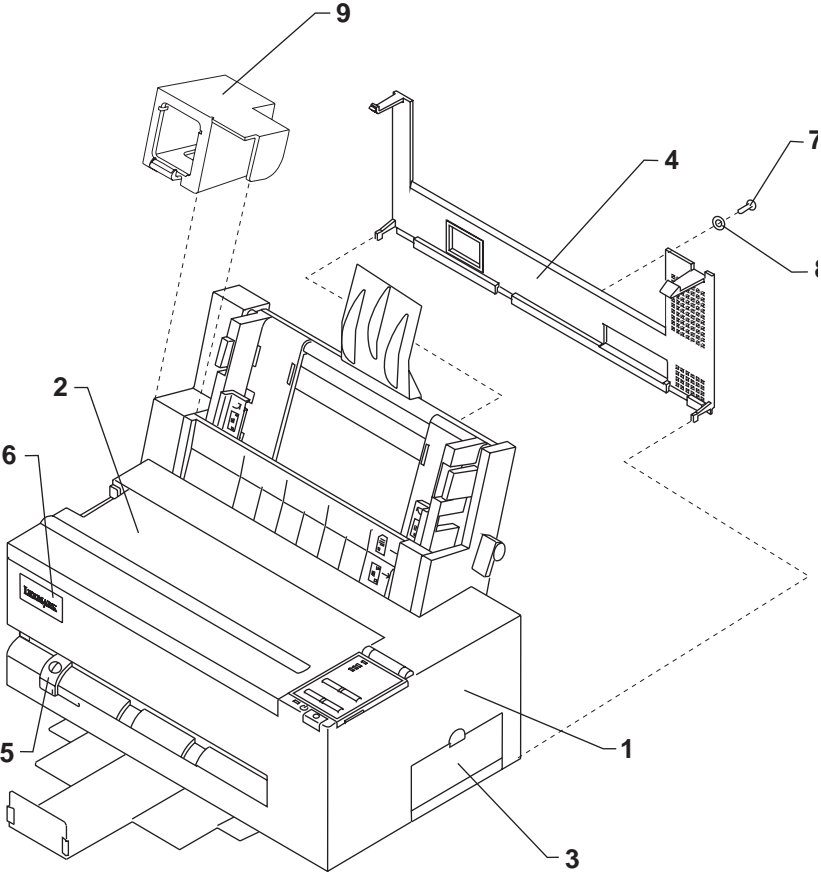
(One dot) o Detail parts of a main assembly

(One dot) o Subassembly of the main assembly

(Two dot) o o Detail part of a one-dot subassembly

(Two dot) o o Subassembly of a one-dot subassembly

Assembly 1: Covers

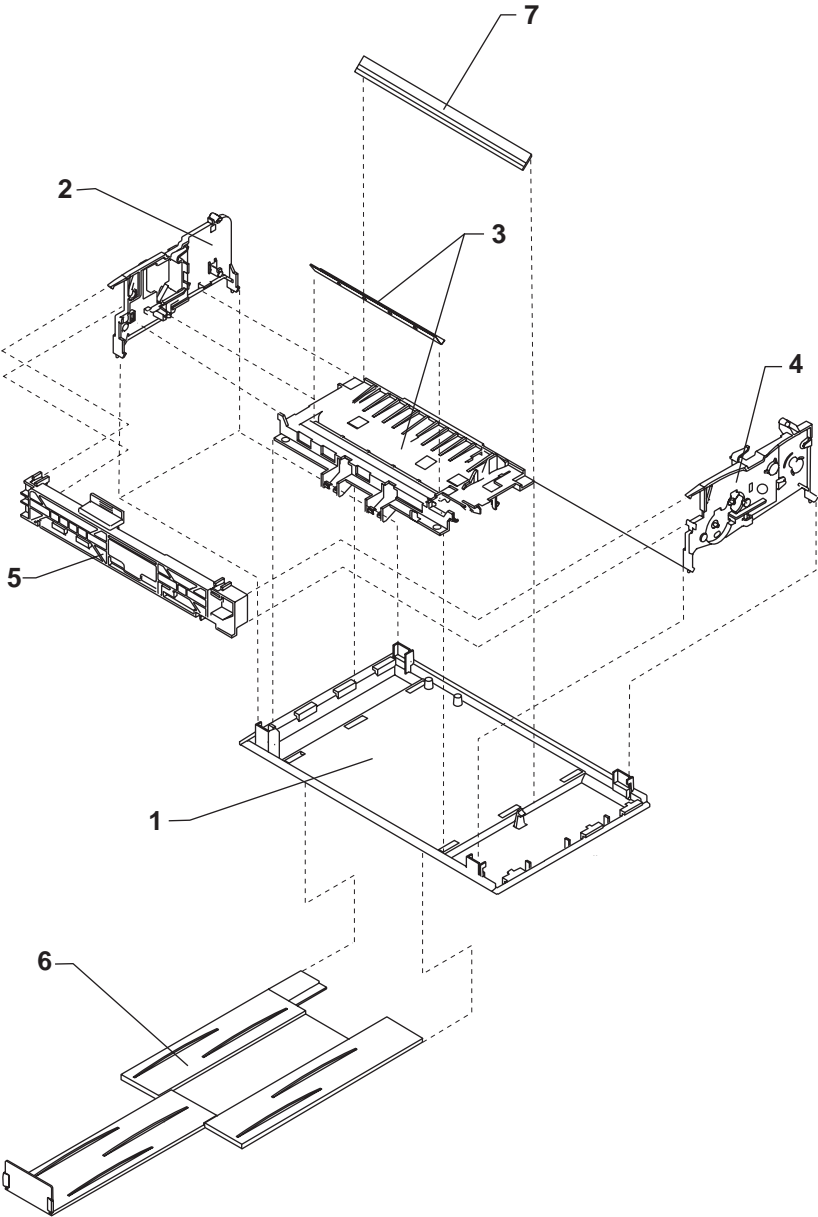




**4076-0XX**

<b>Asm. 1 Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
1	1367099	1	Top Cover
2	1367487	1	Access Cover Asm
3	1367486	1	Font Card Door
4	1367479	1	Rear Cover
5	1367493	1	Left Output Guide
6	1367484	1	Logo, ExecJet II
6	1375486	1	Logo, ExecJet IIc
7		1	Screw, Parts Packet 1367169
8		1	Washer, Parts Packet 1367169
9	1425698	1	Print Cartridge Storage Unit, ExecJet IIc

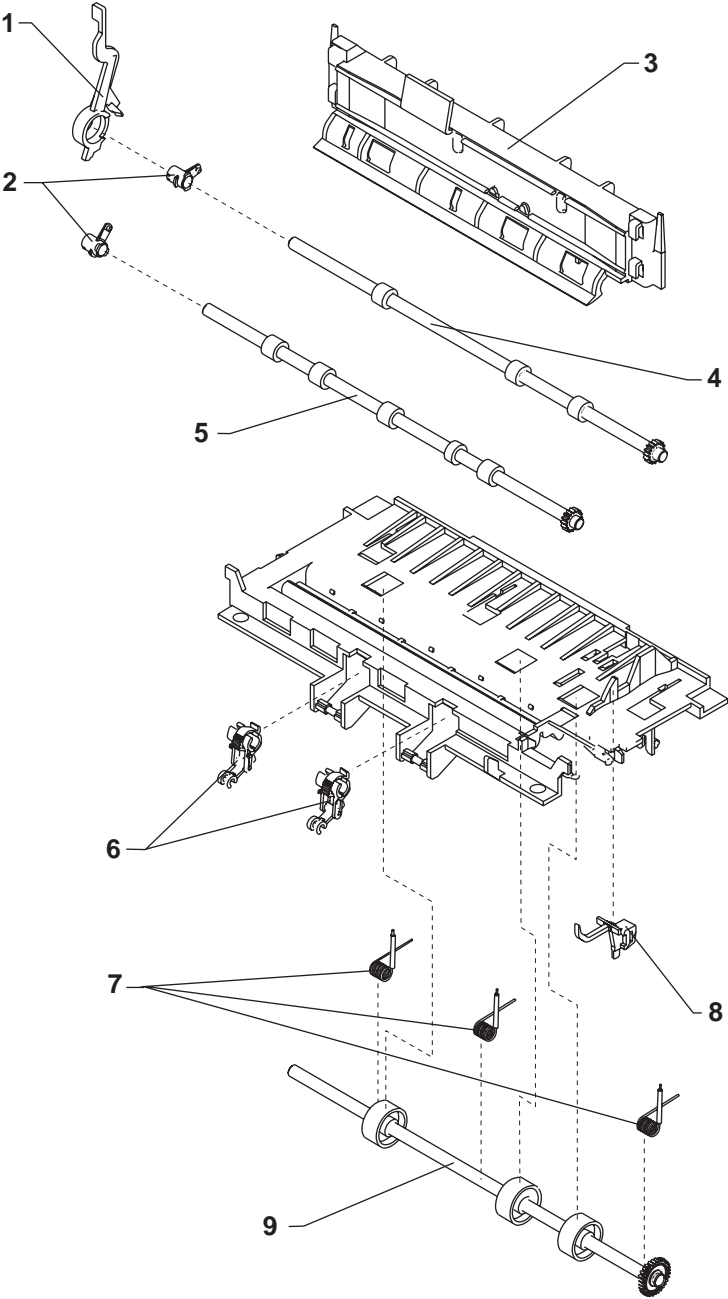
Assembly 2: Frames



**4076-0XX**

<b>Asm. 2 Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
1	1367489	1	Base Asm
2	1367209	1	Left Side Frame
3	1374349	1	Middle Frame Asm
4	1367229	1	Right Side Frame
5	1367309	1	Carrier Transport Motor Frame
6	1367199	1	Exit Tray Asm
7	1367079	1	Carrier Guide

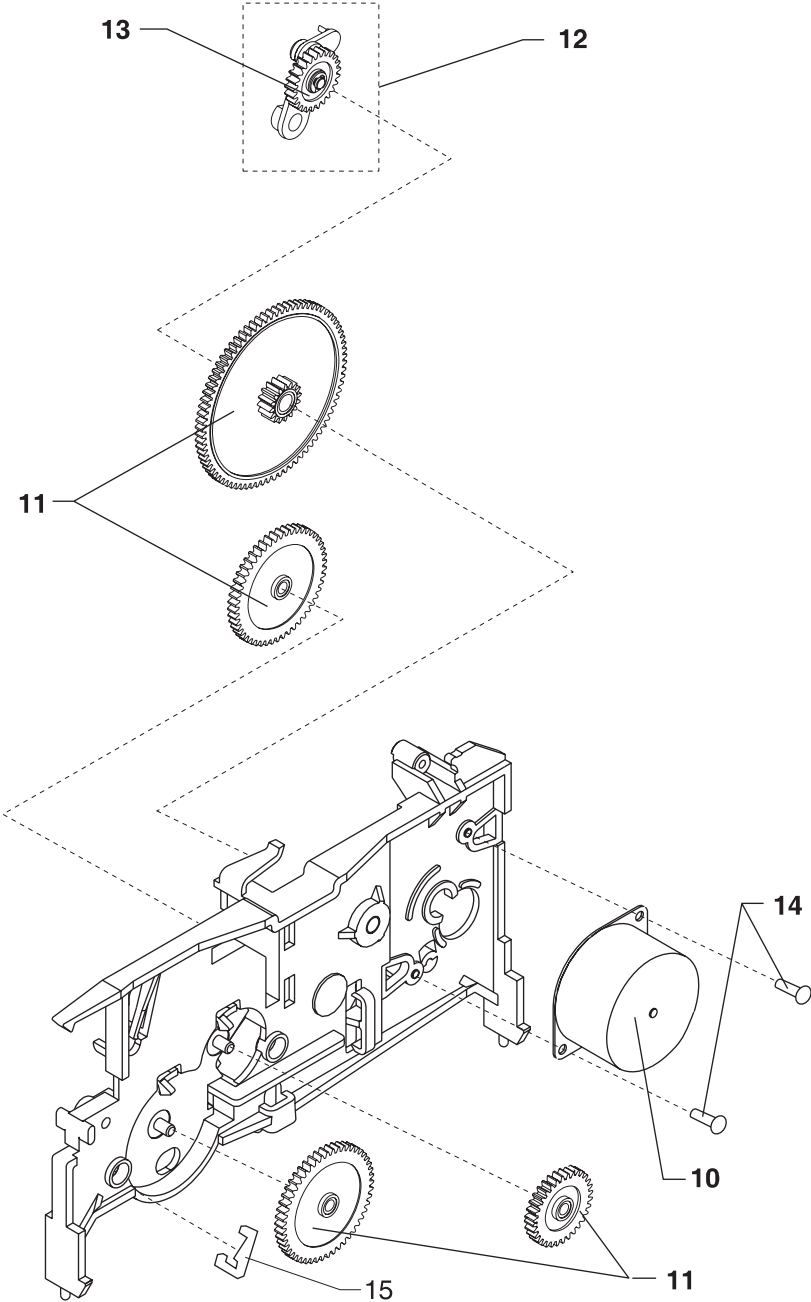
Assembly 3: Paper Feed



**4076-0XX**

<b>Asm. 3 Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
1	1367179	1	Paper Release Lever
2		2	Bushing, Parts Packet 1367169
3	1367339	1	Paper Guide
4	1367279	1	Small Feed Roller Asm
5	1367289	1	Exit Roller Asm
6	1367266	1	Ejector B/M
7		3	Spring, Parts Packet 1367169
8	1367049	1	End of Forms Flag
9	1367269	1	Large Feed Roller Asm

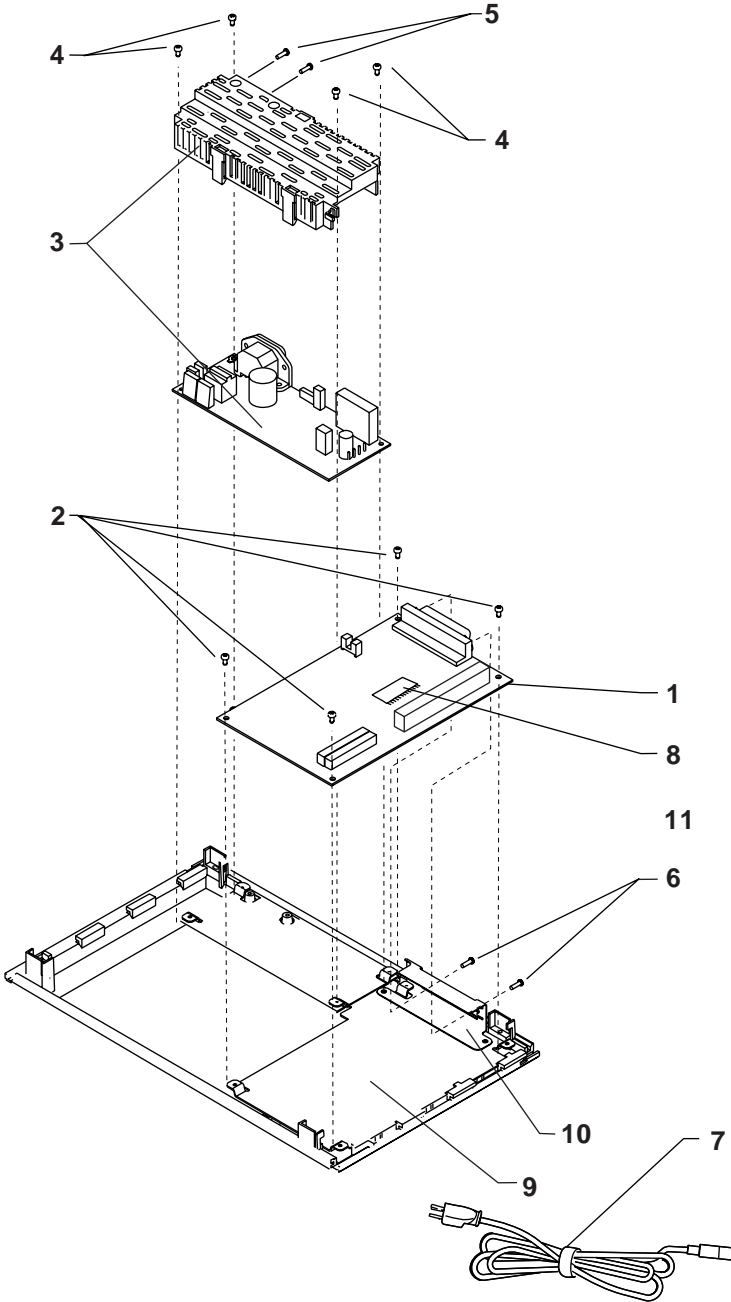
Assembly 3: Paper Feed (Cont.)



**4076-0XX**

<b>Asm. 3 Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
10	1367239	1	Paper Feed Motor Asm
11	1367249	1	Gears B/M
12	1367259	1	Feed Arm Asm
13		2	C-Clip, Parts Packet 1367169
14		2	Screw, Parts Packet 1367169
15	1374363	1	Retainer, Parts Packet (10)

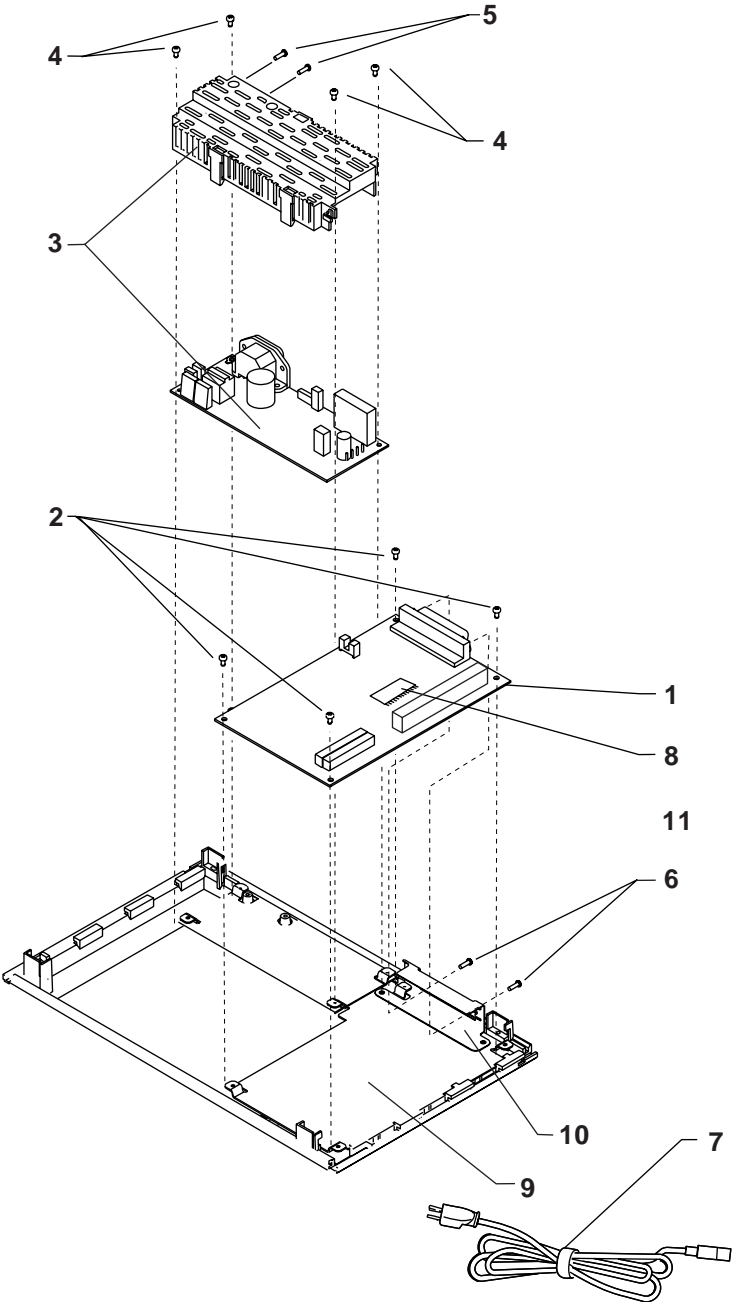
Assembly 4: Electronics





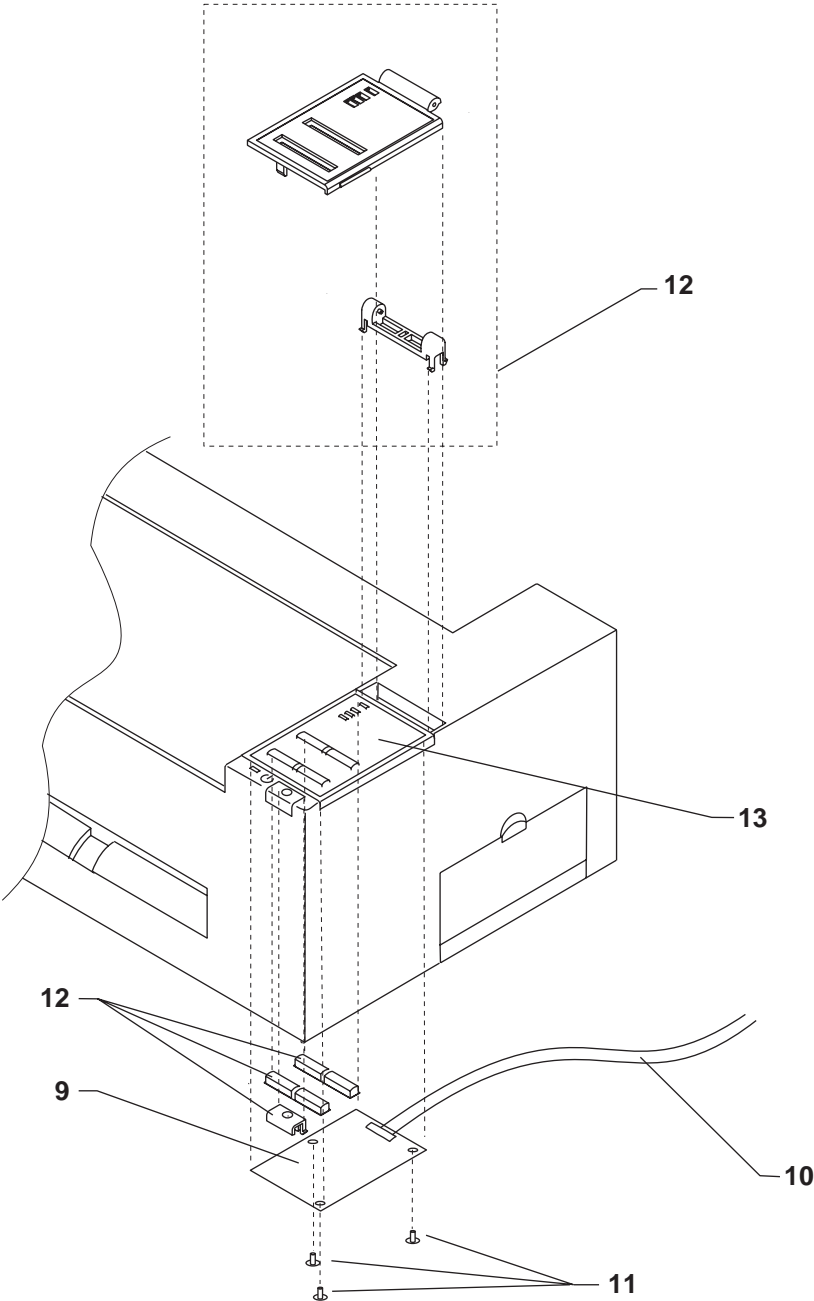
Asm. 4 Index	Part Number	Units	Description
1	1374330	1	System Board, (No Code Module), ExecJet II
1	1375419	1	System Board, (No Code Module), ExecJet IIc
2		4	Screw, Parts Packet 1367169
3	1367189	1	Power Supply
4		4	Screw, Parts Packet 1367169
5		2	Screw, Parts Packet 1367169
6		2	Screw, Parts Packet 1367169
7	1430317	1	Power Cord, US
7	1342536	1	Power Cord, Argentina
7	1339520	1	Power Cord, Austria
7	1339520	1	Power Cord, Belgium
7	1342514	1	Power Cord, Bolivia
7	1342514	1	Power Cord, Brazil (LV)
7	1342530	1	Power Cord, Brazil (HV)
7	1430317	1	Power Cord, Canada
7	1342534	1	Power Cord, Chile
7	1342514	1	Power Cord, Columbia
7	1342514	1	Power Cord, Costa Rica
7	1339525	1	Power Cord, Denmark
7	1342514	1	Power Cord, Ecuador
7	1342514	1	Power Cord, El Salvador
7	1339520	1	Power Cord, Finland
7	1339520	1	Power Cord, France
7	1339520	1	Power Cord, Germany
7	1339520	1	Power Cord, Greece
7	1342514	1	Power Cord, Guatemala
7	1342514	1	Power Cord, Honduras
7	1339520	1	Power Cord, Iceland
7	1339519	1	Power Cord, Ireland
7	1339521	1	Power Cord, Israel
7	1339524	1	Power Cord, Italy
7	1342514	1	Power Cord, Mexico
7	1339520	1	Power Cord, Netherlands
7	1342514	1	Power Cord, Nicaragua
7	1339520	1	Power Cord, Norway

Assembly 4: Electronics (Cont.)



Asm. 4 Index	Part Number	Units	Description
7	1342514	1	Power Cord, Panama
7	1342536	1	Power Cord, Paraguay
7	1342514	1	Power Cord, Peru
7	1339520	1	Power Cord, Portugal
7	1339523	1	Power Cord, South Africa
7	1339520	1	Power Cord, Spain
7	1339520	1	Power Cord, Sweden
7	1339522	1	Power Cord, Switzerland
7	1339520	1	Power Cord, Turkey
7	1339519	1	Power Cord, United Kingdom
7	1342536	1	Power Cord, Uruguay
7	1342514	1	Power Cord, Venezuela
8	1367039	1	Code Module, ExecJet II
8	1375418	1	Code Module, ExecJet IIc
8	1374327	1	Ground Plane
10	1374328	1	ESD Shield
NS	1374346	1	Logic Card Cover

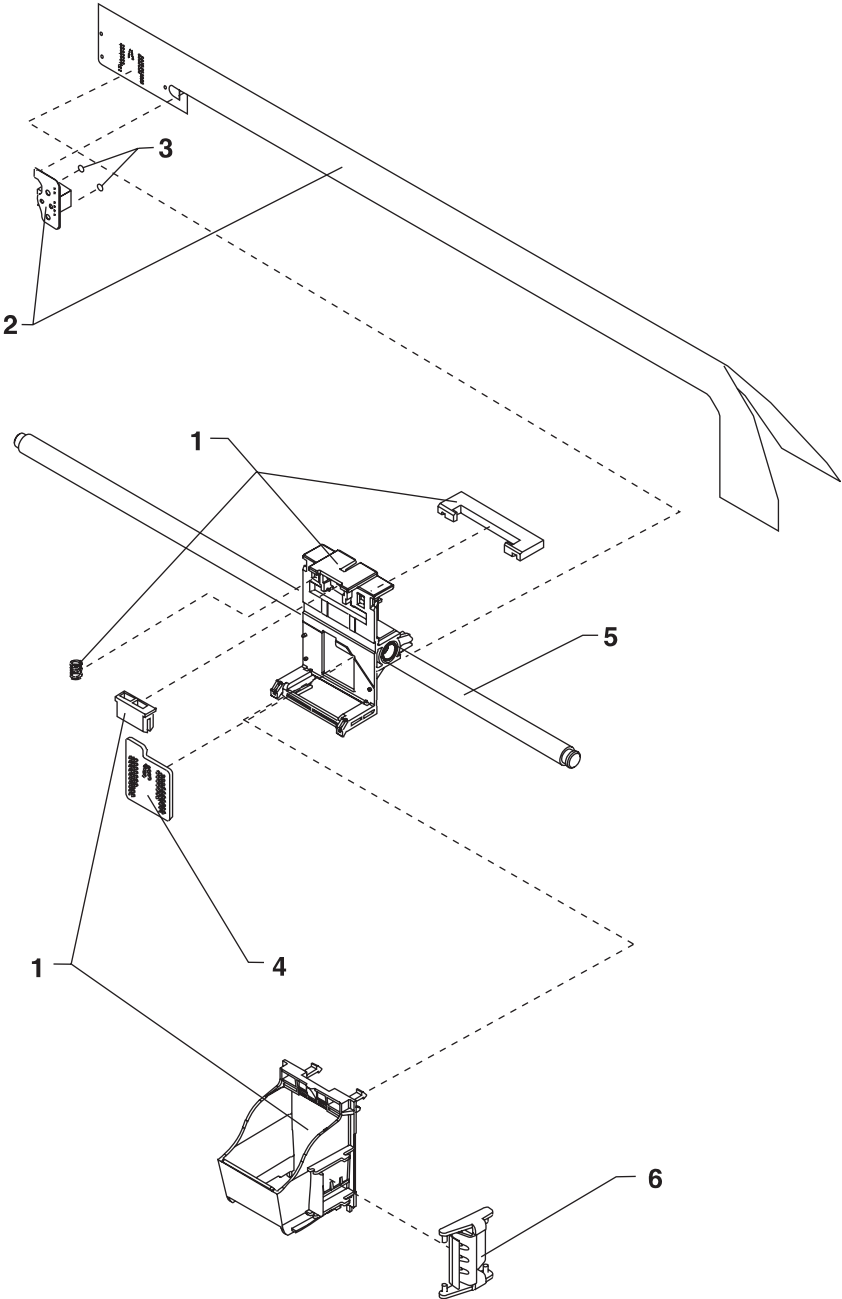
Assembly 4 Electronics (Cont.)



**4076-0XX**

<b>Asm. 4 Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
9	1367129	1	Operator Panel Card
10	1367141	1	Operator Panel Cable
11		3	Screw, Parts Packet 1367169
12	1367133	1	Operator Panel Door B/M
13	1367142	1	Door Overlay B/M
13	1367478	1	Door Overlay B/M, Non U.S.

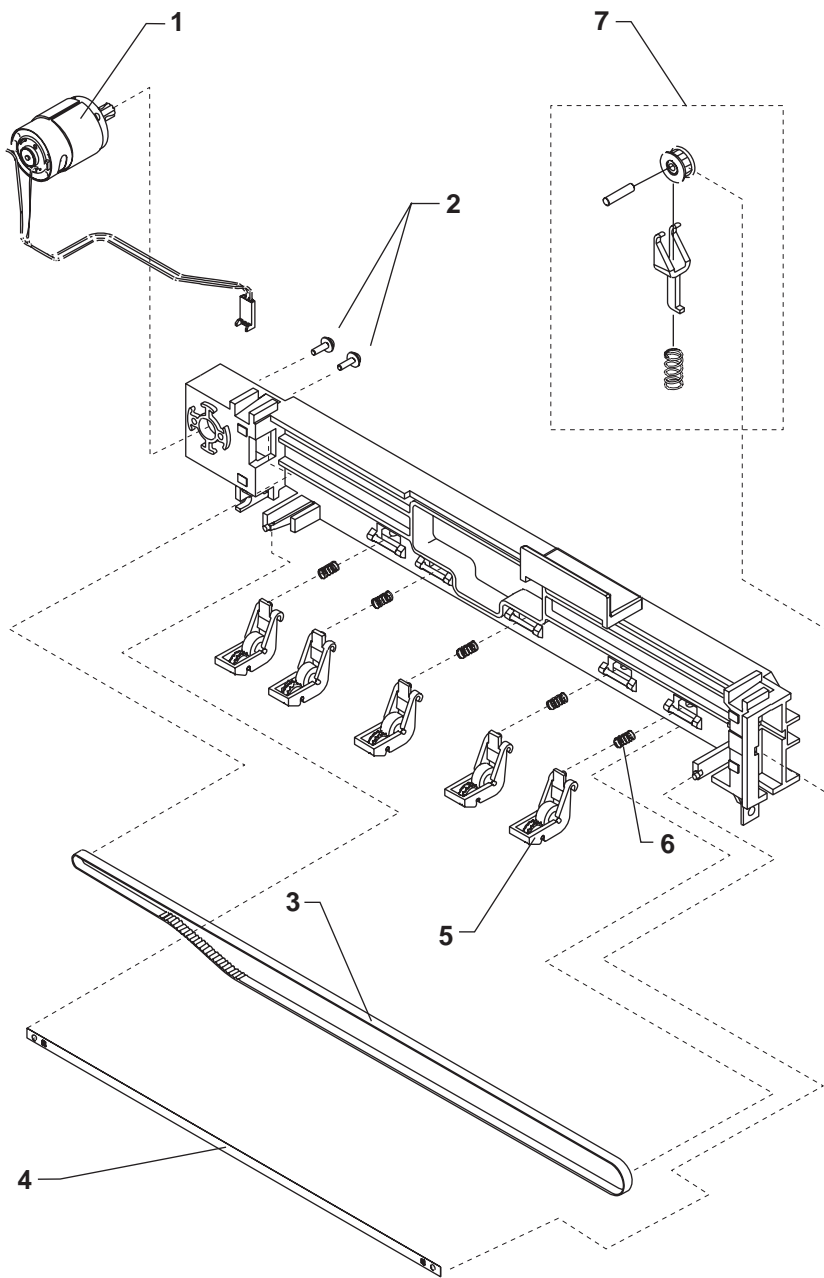
Assembly 5: Carrier



**4076-0XX**

<b>Asm. 5 Index</b>	<b>Part Number</b>	<b>Unit s</b>	<b>Description</b>
1	1367299	1	Print Head Carrier Asm
2	1367149	1	Cable, Print Head, and Encoder Card
	1425769	1	Encoder Card Only
3		2	Screw, Parts Packet 1367169
4	1367109	1	Rubber Backer
5	1367089	1	Guide Rod, Carrier
6		1	Clip, Parts Packet 1367169
NS	1374338	1	Toroid, Non Western Hemisphere

Assembly 6: Carrier Transport

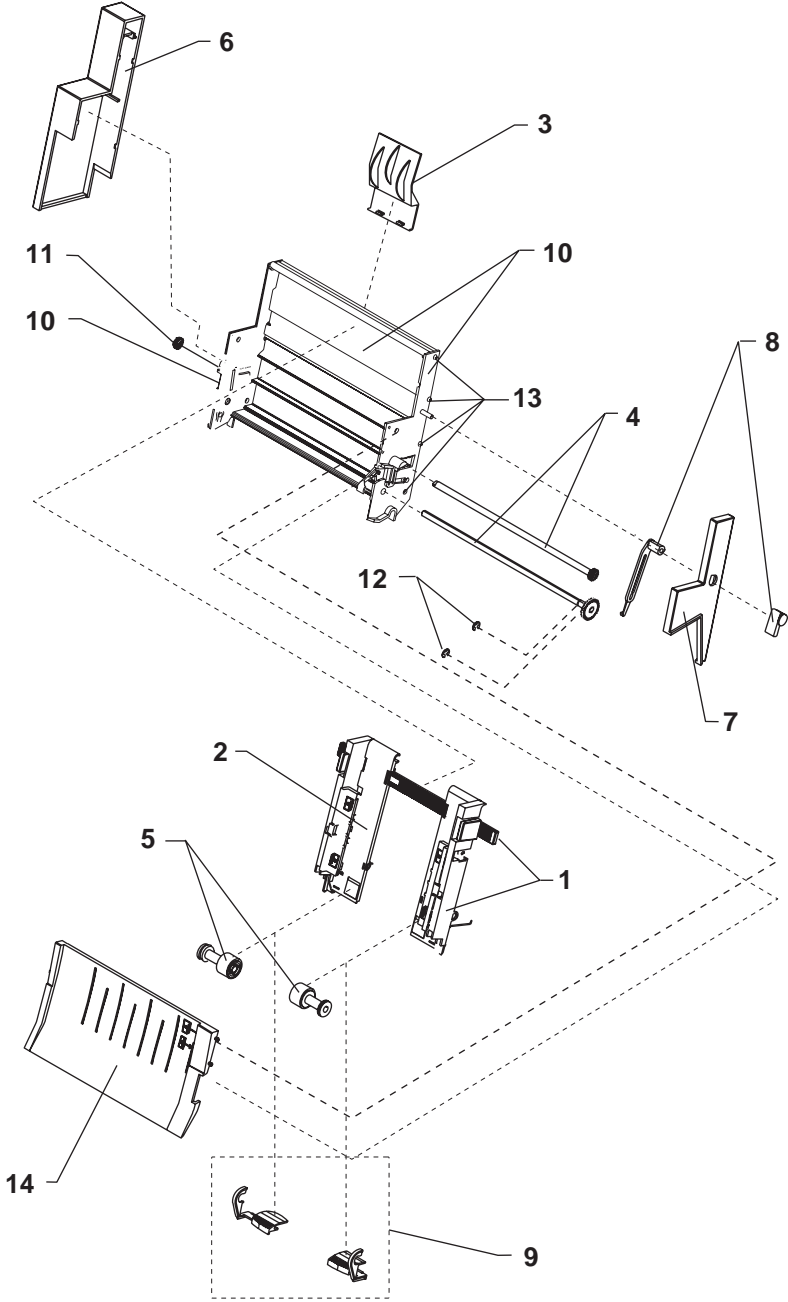




**4076-0XX**

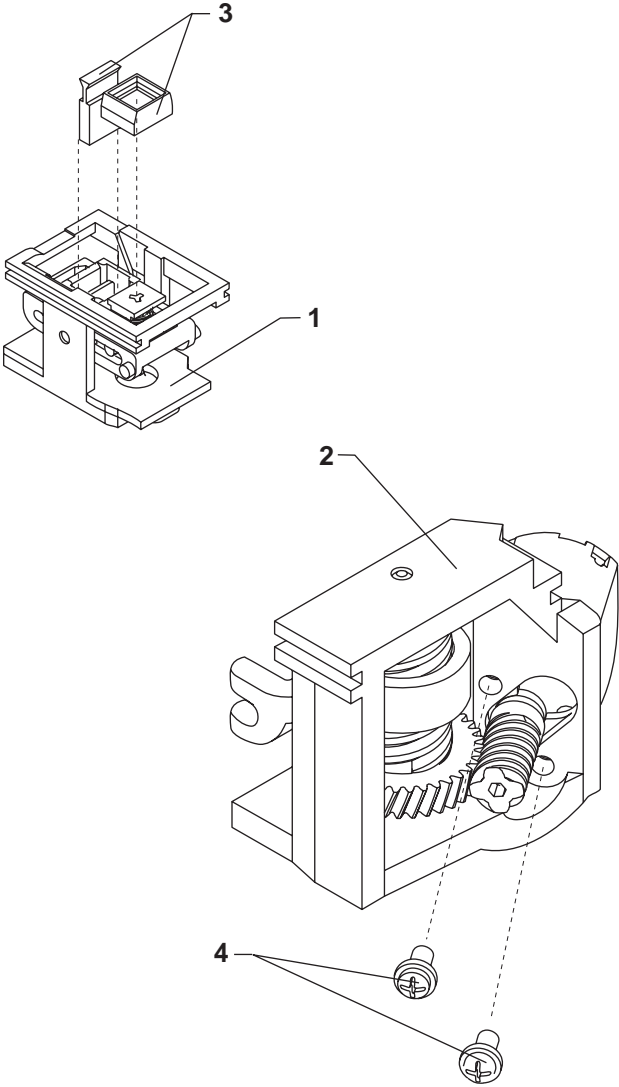
<b>Asm. 6 Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
1	1367319	1	Motor Asm
2		2	Screw, Parts Packet 1367169
3	1425748	1	Belt
4	1367379	1	Encoder Strip
5	1367349	1	Star Roller Asm, ExecJet II
5	1425705	1	Star Roller Asm, ExecJet IIc
6		5	Spring, Parts Packet 1367169
7	1367329	1	Idler Pulley B/M

Assembly 7: Auto Sheet Feed



<b>Asm. 7 Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
1	1367497	1	Right Edge Guide and Width Adjust Strip
2	1367498	1	Left Edge Guide Asm
3	1367439	1	Upper Paper Support
4	1367469	1	Pick Roll and Paper Load Shaft B/M
5	1367463	2	Pick Roll Hub Asm
6	1367449	1	Left Side Cover
7	1367459	1	Right Side Cover
8	1367029	1	Paper Load B/M
9	1367019	1	Envelope Buckler B/M
10	1367396	1	Side and Back Plate B/M
11	1367249	1	Gears B/M
12		2	E-Ring, Parts Packet 1367169
13		4	Screw, Parts Packet 1367169
14	1374340	1	Manual Insert Tray

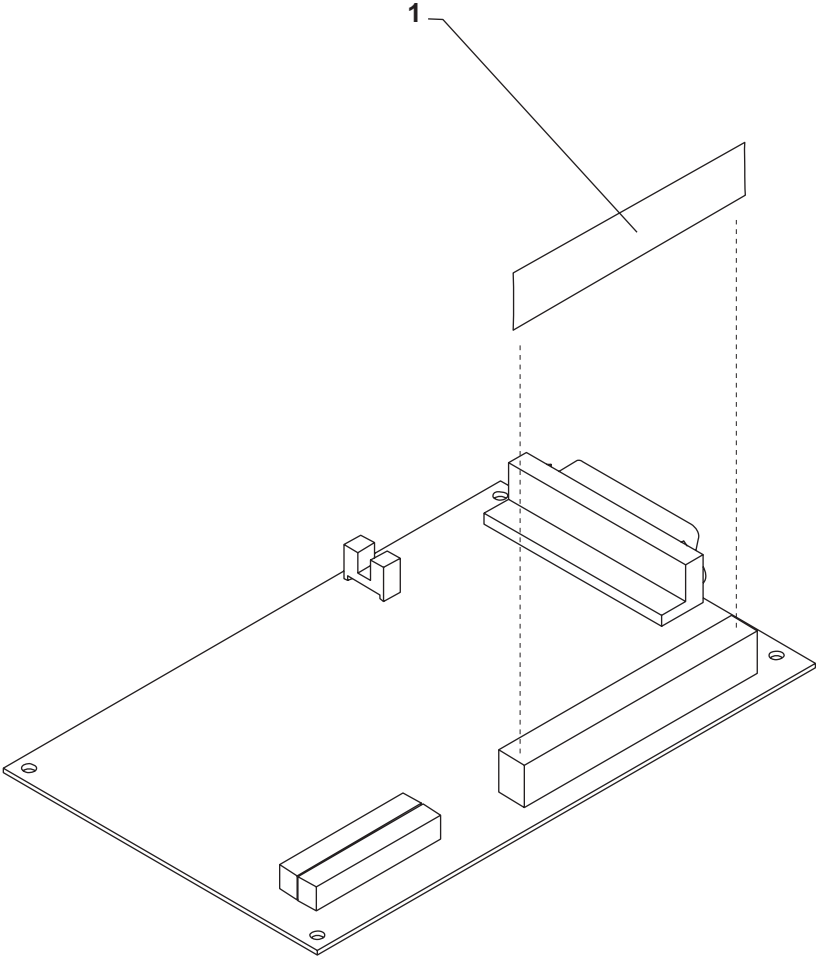
Assembly 8: Maintenance Station



**4076-0XX**

<b>Asm. 8 Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
1	1425669	1	Rocker Asm
2	1367399	1	Drive Asm
3	1367389	1	Wiper and Cap B/M
4		2	Screw, Parts Packet 1367169

Assembly 9: Options



**4076-0XX**

<b>Asm. 9 Index</b>	<b>Part Number</b>	<b>Units</b>	<b>Description</b>
1	1325283	1	256K Flash SIMM
1	1367139	1	256K RAM SIMM
NS	1363110	1	Serial Option
1	1325285	1	1MB FLASH SIMM
1	1325286	1	2MB FLASH SIMM

# Index

## A

- Abbreviations 3
- Adjustments 31
- ASF Envelope Buckler And Pick Roller
  - Hub Removal 33
- ASF Paper Load Lever Removal 34
- ASF Right And Left Edge Guide
  - Assemblies Removal 34
- Auto Sheet Feed Removal 33

## C

- Carrier Belt Removal 35
- Carrier Guide Removal 35
- Carrier Transport Motor Frame
  - Removal 36
- Carrier Transport Motor Removal 35
- Carrier Transport Problems 9
- Communications Problem 9
- Connector Locations 48

## D

- Diagnostic Information 4

## E

- Encoder Strip Removal 36
- End-of-forms Flag Removal 37
- Envelope Feed Service Check 11
- Error Indicator Table 5
- Exit Roller Assembly Removal 37

## F

- Feed Arm Assembly Removal 37
- First Print Line Service Check 11

## G

- General Information 1

## H

- Handling Esd-sensitive Parts 30
- How To Use This Parts Catalog 51

## I

- Inside Idler Gears Removal 38

## L

- Left Side Frame Removal 39
- Lubrication Specifications 50

## M

- Maintenance Approach 2
- Maintenance Station Problems 9
- Maintenance Station Service Check 12

## O

- Operator Panel Problems 9
- Operator Panel Removal 40
- Operator Panel Service Check 12
- Options 2
- Outside Idler Gears Removal 41

## P

- Paper Feed Problems 10
- Paper Feed Service Check 14
- Paper Path Service Check 17
- Parallel Port Service Check 18
- POST Symptom Table. 8
- Power Consumption 1
- Power Problems 10
- Power Service Check 19
- Power-on-self-test (Post) Sequence 7
- Preventive Maintenance 50
- Print Quality Problems 10
- Print Quality Service Check 20

## R

- Removal Procedures 32

## S

- SIMM Problem 11
- Start 4
- Symptom Tables 9



**4076-0XX**

**U**

Unique Tools **3**